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Electrical Contracting

With Which Is Incorporated
The Electragist

May
1930

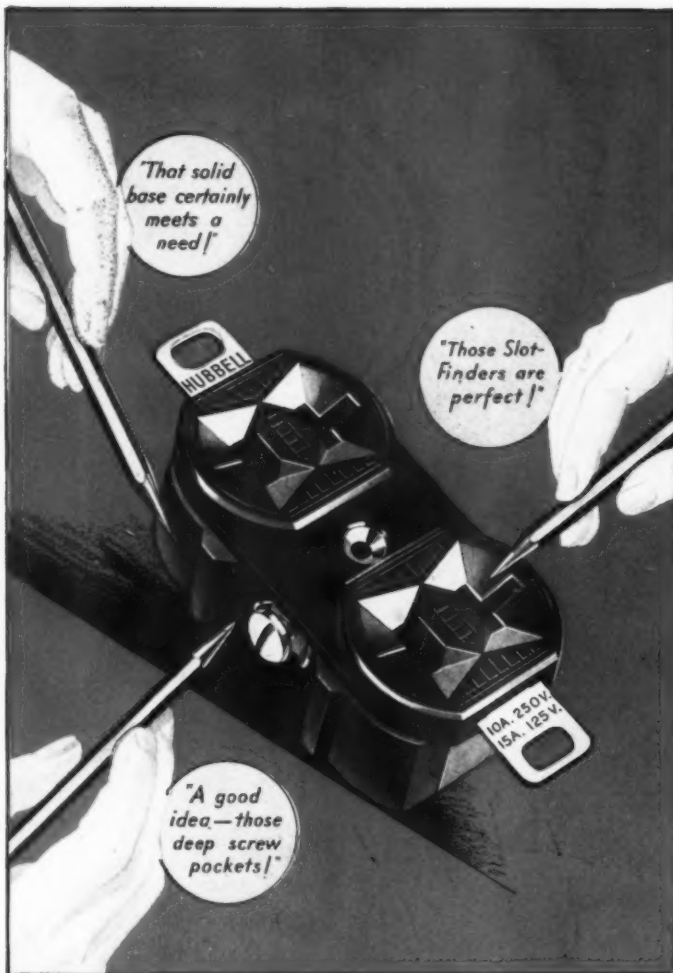
fittings *that* fit



National Electric Products Corporation
National Metal Molding Division
Pittsburgh, Pa.



TK 14
E30
v.29, pt.2



ADVANCED DESIGN you expect from the inventors of the first slot outlet and the first Te-Slot outlet . .



UNIQUE SLOT-FINDERS—New Bakelite face of modernistic design incorporates unique Slot-Finders. A noteworthy convenience. No groping. Blades find their slots automatically, quickly and surely.



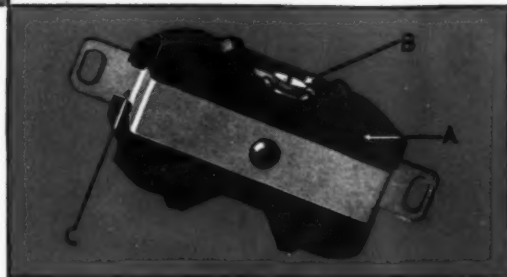
ONE-PIECE CONTACT SPRING—Guarantees perfect alignment and a positive electrical connection. Made of finest phosphor bronze.

EVERY significant advance in convenience outlet design has been pioneered by Hubbell. Back in 1903 the genius of Harvey Hubbell evolved the first flush outlet with slots...a contribution of major importance to the whole electrical industry. Fifteen years later Hubbell produced the revolutionary Te-Slot convenience outlet which brought order to the confusion of parallel and tandem blade plugs.

Now Hubbell comes forward with another outstanding development in outlets. Advance showings have brought the enthusiastic approval of architects, engineers, contractors and dealers. All agree that it is a better outlet in every respect!

Check the unique features listed here. See the advanced design incorporated throughout. Send for a sample...inspect it carefully and you'll recommend it for future wiring jobs.

HARVEY HUBBELL, INC., BRIDGEPORT, CONN.
Boston, 176 Federal St.; Atlanta, H. C. Biglin, 138 Marietta St.; New York, 122 E. 42nd St.; Chicago, 318 W. Washington St.; Denver, T. H. Bodfish, 1109 Broadway; Philadelphia, Fifth St., Phila. Bourse (Exhibition Dept.); San Francisco, 390 Fourth St., Garnett, Young & Company. Harvey Hubbell Co. of Canada, Ltd., 7-12 Labatt Ave., Toronto.



A—NEW SOLID COMPOSITION BASE, moisture-proof, eliminates the fibre back which is objectionable under certain conditions.

B—BETTER WIRING AND INSULATING FACILITIES. Larger screws to hold No. 10 wire when desired. Binding plates and screws are in deep pockets with heavy side bosses of composition, well protected and insulated from side of wall and box. Wide Bakelite barriers insulate wiring cavity from face plate. Tapped bushing for plate screw is grounded to mounting strap, thus grounding the plate.

C—MOUNTING STRAP LOCKED TO FACE, for greater strength and rigidity, and more accurate spring alignment.

HUBBELL convenience OUTLETS

Electrical Contracting

With Which Is Incorporated The Electragist

Victor A. Hanson,
Managing Editor

S. B. WILLIAMS
Editor and General Manager

Coit A. Smith
Western Field Editor

Vol. 29

MAY, 1930

No. 7

Table of Contents:

	Page
John Wise	5
Opportunities in Lighting for Outdoor Sports. .	6
Minimum Charge Policies of Motor Specialists .	8
The Inconvenience Outlet	10
How Dick Wise Removes Competition from House Wiring	11
Two Face Meter Boards By N. Owen Houghton	12
Stock—A Necessary Part of the Motor Specialist's Service By J. Roland Stolzenbach	14
A Job Stockroom on Wheels.....	16
Flexible Book Case Lighting.....	17
Range Wiring Cost Factors.....	18
Editorials	20
Code Chats	22
A. E. I. Activities.....	27
In the Editor's Mail.....	30
Contracting News	34
Suggested Resale Prices.....	47
Manufacturers' News	138

Index to Advertisers on Page 146

RESALE PRICE NEWS

Increased prices are noted this month in the Resale Price Section in:

Solid gang boxes
Loom

Price reductions occur in:

Heavy duty cord
Heater cord
Soldering lugs
Asbestos covered wire
Lead covered wire
Rubber covered wire

The wire prices apparently are already beginning to feel the drop in price of copper.

Solderless connector listings have been increased to include sizes up to 500,000 c.m.

A number of new set-ups on safety switch prices have been made in order that the tables may be more easily used.

Addition of the Standard line has been made to bell ringing transformer prices.

Electrical contractor-dealers of Phoenix, Ariz., have adopted ELECTRICAL CONTRACTING'S Resale Price schedule as the recommended standard.

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374900



ROMEX

easy to get to the job

RomeX is lighter to handle and therefore far easier for any contractor to put on the job.

It needs fewer fittings. No knobs, tubes or pipes. Just string it through a series of holes. Hold it with a few simple straps and the job is done!

No need for a big kit of tools. You can cut it with pliers and handle it like ordinary code wire.

RomeX is the modern wire for rewiring houses and for installing new convenience outlets. Because of its complete simplicity it means more jobs, quicker jobs—and therefore more profits! Rome Wire Company Division of General Cable Corporation, Rome, New York.

ROME WIRE COMPANY DIVISION
OF
GENERAL CABLE CORPORATION



The Darkest Moment

THERE is no denying the fact that the construction industry for the moment is in a bad way. In some cities less than a third of the wiremen are employed.

But this moment is only the climax to a market which has been steadily declining for years. The aggregate figures for new construction would appear to refute this last statement. An analysis of them, however, will show that whatever increase there was in the aggregate was accounted for by such construction as does not find its way into the average community.

A business climax such as this one is always refreshing for two reasons: First, it brings an end to the torture of a slowly failing market by precipitating all the grief at once; second, it is always followed by better business.

CONSTRUCTION contracts in March, according to the Dodge reports, were the largest since last August, while the total contracts for the first quarter were only 12 percent behind the first quarter of 1929. April is doing better.

What does it mean? It means that while the clouds are heavy above us the horizon is very bright.

The United States today is underbuilt. An increasing population, a growing demand for better and more up-to-date homes, office buildings and factories; changes in living conditions

—all of these things are making an increased volume of new building necessary.

There is every reason to believe that contracts for new construction to be placed during the first six months of 1930 will equal the volume of the first half of 1929 and there is even more reason to believe that 1930 will exceed 1929 in this market, while 1931 will exceed any previous year.

ELECTRICAL CONTRACTING has every reason to believe that contractors and manufacturers of wiring supplies and other electrical building materials are on the threshold of one of the best periods they have ever enjoyed.

For that reason ELECTRICAL CONTRACTING urges the contractors not to be too eager to accept work at any price, because those who load up on such work will find themselves struggling with losses when others are enjoying a more profitable business.

ELECTRICAL CONTRACTING also urges manufacturers of material for the electrical construction market to prepare now for a rapidly expanding volume. Any curtailment of promotional or development program at this time is bound to have a very unsatisfactory reflection in the market just ahead of us.

It is always darkest just before the dawn.

ANACONDA

from mine to consumer



REG. U.S. PAT. OFF.



WIRING PRODUCTS

Rubber-covered Wire
Flexible Cords
ABC Armored Cable
Durax Sheathed Cable
Duraduct Cable
Duracord Heavy-duty Cord

For many years
the mark of quality
on
BARE COPPER WIRE

NOW
the mark of quality
on
RUBBER-COVERED WIRE
and other wiring products

ANACONDA WIRE & CABLE COMPANY

General Offices: 25 Broadway, New York City

Chicago Office: 111 West Washington Street

Sales Offices in Principal Cities

MAY, 1930

BUSINESS *is* Never ROTTEN

for

John Wise



"P^Y golly," moaned Moe Unterbidder, "business iss rotten! I see py der papers—"

"Yeah," cut in John Wise, the successful contractor, "you see by the papers. But what do you see with your eyes?"

"It sess in der Noos—"

"Listen, Moe—yer wet—you drip. Dehydrate yerself."

"Vot doss 'at word mean?—dee-high-drate."

"It means dry yerself—wipe off yer chin," replied John Wise smiling. "Let me tell you birds something," he continued, turning to the group of contractors who were lunching together at the big round table known as the Electrical Club, "when business is bad for some folks it is good for others. Right now a lot of industrial plants are low. They've let out men. They're working short shifts. All right. Now is the time for them to check up the plant and make all those little repairs and changes and additions that every manufacturing plant needs to make about every so often."

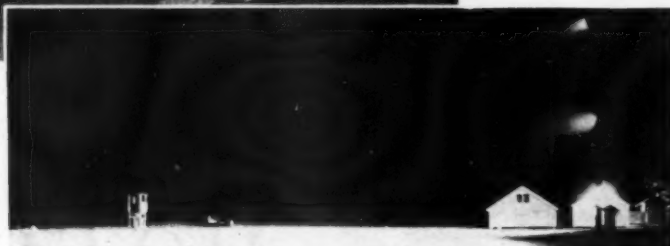
"When a plant is working at peak capacity they can't be bothered with re-wiring and re-motoring and re-lighting. They have to hustle to keep up production. But when things go slack a bit, then the superintendent and the engineer and the big boss get together and begin to look the place over. They find a line of shafting that needs a new type motor that will operate more dependably and efficiently than the old coffee-grinder that is hooked to it now: they remember that the assembly department needs better lighting to give the piece-workers a chance to make their scale: the engineer points out a couple of overloaded circuits and remarks that a new wiring job will save a lot of money on the light and power bills. They're ripe for a smart contractor who knows his rutabagas."

"B^{UT} Ch-ohn," objected Moe, "these industrials fellers what ain't doink no business feels poor and won't puy noddings."

"Horsefeathers!" snorted John Wise. "I have more orders on my books right now than I had a year ago. The industrials are slack, but I'm overloaded. I'm sitting pretty with all the jobs I can handle signed up. But there are a lot of jobs I haven't got because I couldn't take care of them, so go to it. The business is there if you go after it."



Golf putting green.
(Wide angle flood-
lights.)



Bathing beach. (Medium and narrow angle projectors.)

Opportunities



Floodlight Projector—Used in
lighting football stadiums, bath-
ing beaches, baseball diamonds,
golf practice courses and run-
ning tracks.



Aluminized Reflector With Skirt—
Used in tennis court lighting.



RLM Dome Reflector—Used in light-
ing race tracks, handball courts, golf
practice sheds.



Underwater Projector—Used in
lighting swimming pools.

Basic Principles in Lighting for OUTDOOR SPORTS

1 INTENSITY: Fast moving games require considerably more light than recreational areas. Under average conditions, playgrounds require from 1 to 3 ft. candles, bathing beaches from .25 to 2 ft. candles, baseball from 2 to 6 ft. candles and football from 4 to 8 ft. candles. The higher intensities represent the best practice.

2 DISTRIBUTION: Even distribution is very important because when a ball passes from light to dark areas it appears to change speed. The type of unit to use depends largely on the length of beam throw and spacing of units. Wide angle open type floodlights and medium angle enclosed projectors fill the majority of requirements, although in some instances narrow angle projectors giving a long throw of light are required. Spread lenses are also used.

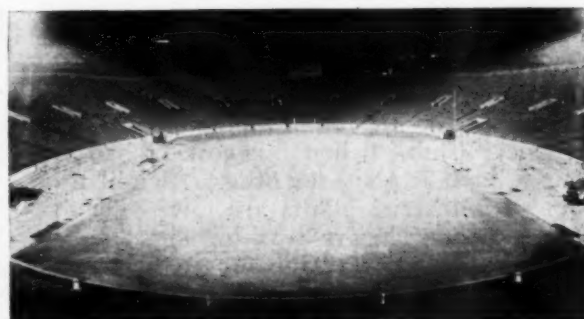
3 GLARE: Absence of glare is absolutely essential. Players cannot do their best when being continually blinded and audiences should be protected from objectional spill. Glare is eliminated by high mounting, by mounting so that the light is directed across the direction of play and also by the use of louvers.

4 EFFICIENCY: Economical installations call for the use of the largest floodlights that will cover the area evenly. However, even distribution should not be sacrificed to economy. The reflecting surface of an open floodlight determines its efficiency. A high reflection factor is essential. The rated lamp voltage should correspond to the actual circuit voltage.

5 PERMANENCE: Outdoor lighting installations should not be flimsy. Equipment should be sturdy and weather-proof. Usually rigid supports are more satisfactory than a messenger cable suspension. In many instances steel poles are used to advantage.



Race track. (RLM dome reflectors and medium angle projectors.)



Football stadium. (Projectors with spread lenses and louvers.)

Electrical Contracting, May, 1930

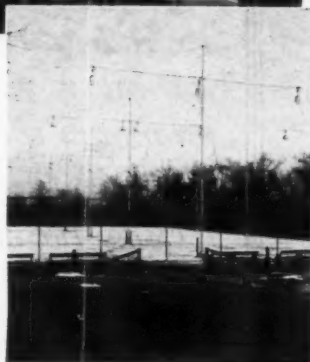
in Outdoor Sports Lighting

Football stadiums
Football practice fields
Baseball diamonds
Obstacle golf putting greens
Golf practice courses
Tennis courts
Swimming pools
Race tracks
Quoits

Handball courts
Hockey rinks
Soccer fields
Bathing beaches
Toboggan slides
Running tracks
Recreation grounds
Trapshooting fields
Bowling greens



Baseball diamond. (Projectors with spread lenses.)



Tennis court. (Aluminum reflectors with skirts.)



Bowling green. (Wide angle open type floodlights.)
Swimming pool. (Open type wide angle floodlights.)



General Recommendation for OUTDOOR SPORT LIGHTING

Bathing Beaches: One thousand watt projectors, 50 ft. or higher to prevent glare. Long throw of 500 ft. or more—narrow angle projectors. Average throw of about 300 ft.—medium angle projectors.

Swimming Pools: Underwater lighting—500 watt projectors with spread lenses mounted in niches on 10 ft. spacings, 2 ft. below water level. If pools are already built, projectors are available for mounting on bottom or sides. Overhead lighting—large open type, short range, wide angle floodlights.

Golf Courses: Practice driving—narrow angle 1000-watt projectors mounted atop sheds for long drives, alternated with medium angle reflectors to light close ranges.

Tennis Courts: Glare must be avoided. On a series of adjacent courts, five 1500-watt reflectors with skirts should be mounted on outside and six of same type except without skirts should be mounted between courts. Rigid supports preferable. Standard street lighting mast arms on specially designed poles and arms may be used. Six large wide angle open flood lights may also be used—one at each corner and one at each end of net—20 to 30 ft. high.

Race Tracks: Fifteen hundred watt RLM dome reflectors, 60 ft. apart, 30 ft. above ground on inside of course. Home stretch—same on both sides of course. Grandstand—1000-watt medium angle projectors equipped with spread lenses mounted on front edge of stand.

Football, Practice Fields: Either open type reflectors or enclosed projectors of medium angle spread, mounted close to side lines. Minimum height 50 ft.—90 ft. preferable. Minimum spacing, 5 poles to a side—6 preferable.

Large Stadiums: Three poles on each side mounted behind the stadium, one pair about 10 ft. behind each goal line and one pair opposite center line. Each pole should carry 8—1000-watt projectors equipped with spread lenses and louvres. The larger the stadium the higher the wattage necessary. Open type reflectors unsatisfactory behind stadium.

Photographs Courtesy of National Lamp Works; Ivanhoe division of Miller Mfg. Co. and Crouse-Hinds Co.

MINIMUM

Policies of MOTOR

Majority Make Minimum Charge

A minimum charge is made in the motor service departments of 58 percent of the motor specialists replying to ELECTRICAL CONTRACTING's request for information on this subject. Of those making a minimum charge 67 percent make that charge to include labor only.

The average minimum charge of all shops reporting a minimum charge is \$1.56. The average minimum charge of those including labor only in the charge is \$1.55 and the average wage rate of these shops is \$1.38 per hour. The smallest minimum charge is \$0.45 and the largest is \$3.50.

The average minimum charge of those shops including material in this charge is \$1.46 and the average wage rate of these shops is \$1.47 per hour. It is a rather peculiar situation that the shops including labor only in their minimum charge have a higher average minimum charge and a lower average wage rate than those shops including material in the charge.

Minimum Charge Related to Labor

There is noted a definite relation between the labor wage rate and minimum charge. Of those making a minimum charge based on labor only, 41 percent make a charge equal exactly to one hour's labor at the local wage rate. The minimum charge of 22 percent of the shops is equal to approximately 1½ hours' labor at the local wage rate. The charge of 11 percent equals two hours or over and 20 percent charge less than the equivalent of one hour's labor at the local rate.

It is noted that some figure their minimum charge on direct labor cost attempting to include all the labor consumed and wasted in making an average short service call or repair. Others figure the minimum charge on the labor cost of the exact time used on the average short service call and add to that overhead and profit thus basing their minimum charge on a retail labor price. Where the retail labor price was given, the minimum charge in most instances is equivalent to one hour's labor at the retail price. Also in most of these

Most motor specialists have a minimum charge, according to a survey just completed by ELECTRICAL CONTRACTING of the practices of 119 electrical contractors specializing in motor repairs, maintenance and power work. This survey disclosed the following interesting facts:

- 1. A definite relation between the labor wage rate and the minimum charge generally.*
- 2. Very little difficulty in collecting the minimum charge,*

instances the retail labor rate for one hour is equal to about one and a half hours' labor at cost.

Little Trouble Collecting Minimum Charge

Less than 12 percent of those having a minimum charge have any amount of trouble collecting that charge. Whatever trouble there is in collecting does not seem to be in the amount of the charge itself as the few who have trouble collecting have minimum charges ranging from \$2.85 down to \$0.75. In 50 percent of the cases where trouble is had in collecting minimum charges we have reports from others in those same cities who have no trouble collecting the charge.

Only two persons who are making a minimum charge

Electrical Contracting, May, 1930

CHARGE SPECIALISTS



those having such charge being well satisfied with results.

3. Of those shops having no minimum charge, more than a quarter of them state that they are in favor of and should have a minimum charge.

4. In most localities where some reported that conditions would not permit a minimum charge, there were a number of reports that the minimum charge was in vogue and operating successfully.

state that they are opposed to it. One is considering eliminating it because of complaints and the other says that he can't use it with his best customers.

Minimum Charge Not Local

The minimum charge is not local. Neither does there appear to be any reason why a minimum charge cannot be made in any local territory.

In practically every instance where a minimum charge is not made because "it is not practical in this territory" reports have been received from other shops in that same territory which make a minimum charge and have no trouble collecting it.

Pennsylvania is perhaps the one exception. Four shops in that state report that they do not make a minimum charge and only two shops that do. Both of

these that make the charge are in Philadelphia and both have trouble collecting.

In the southeast—Florida, Alabama, Georgia, Carolina, Mississippi and Tennessee—seven shops report no minimum charge, one of which favors a minimum charge, and twelve shops which have a minimum charge, all of which but one favor it and that one has trouble collecting.

In the Great Lakes district, Wisconsin, Illinois, Indiana, Ohio and Michigan, there are eleven making no minimum charge but six of these favor a minimum charge. All of the thirteen making a minimum charge favor it and only two have collection troubles.

In New England three out of four make a minimum charge and have no trouble collecting it. Kansas and Missouri report four making no minimum charge and five make a minimum charge and favor it.

Some questionnaires state that minimum charges are not practical in Southern California. However, reports have been received from that state showing nine who do not have a minimum charge, three of whom favor a minimum charge, and ten who do have a minimum charge, all of whom are in favor of it and only one has trouble collecting. Six of those who have a minimum charge are located in Southern California and only one has trouble collecting.

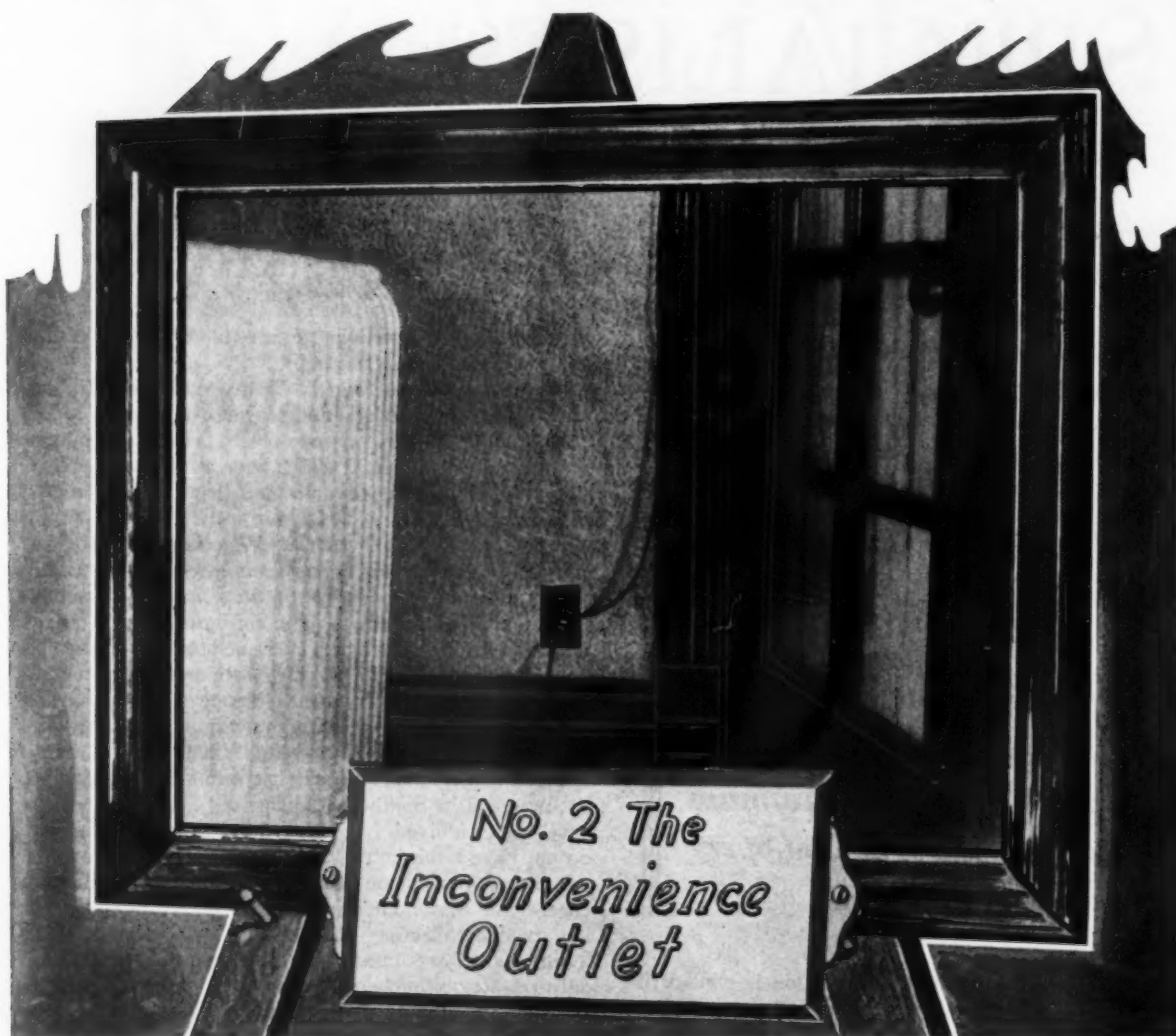
It is suggested from this survey that a number who have no minimum charge do not have it because of their competitors or lack of knowledge of what their competitors do. From Milwaukee, Wis., replies were received from six shops. Two of these have a minimum charge and four have not. One of those who have no minimum charge stated that he was considering it, another stated that he favored a minimum charge and believed that it should be adopted by the majority and another stated that he would like to make a minimum charge but competitors do not make it. It seems that all these shops need is to get together.

Twenty-eight percent of all the shops stating that they had no minimum charge favor a minimum charge and believe that they should have one. This brings out the fact that 70 percent of the motor specialists either have a minimum charge or favor a minimum charge.

ELECTRICAL CONTRACTING

*Nominates
for the*

Hall of Horrors



1 *Steam Heated Outlet*—Behind a radiator, no attention having been paid to heating layout when building was wired.

2 *Hide and Seek Outlet*—Behind a door (as above). You might live in the house a year and never know the outlet was there.

3 *Short Change Outlet*—Under a switch, good for only 50 per cent of the average range of an outlet.

4 *Neither Here nor There Outlet*—Under a living room window, rooms are never arranged for lamps to be used in front of a window.

5 *Scotch Outlet*—Under a window in the center of a bedroom wall. Saves on the light bill as it is seldom, if ever, used.

6 *Left-Handed Outlet*—Kitchen iron outlet. If one is not left-handed it is, of course, possible to bring the cord down and under the board.

7 *Detour Outlet*—In the dining room. When in use signs should be provided telling guests to make detour to other side of table.

8 *Near Outlet*—In the basement so near to everything yet too far from tubs, laundry, furnace, work bench, etc.

9 *Hidden Wonder*—In the attic. Home owners should have matches handy along stairs so this outlet—center of attic—can be found.



Types of residences wired by this firm. Contracts ranging all the way up to 209 houses have been received. He has done work for one of his builders for more than seven years because the builder got service on previous small contracts.

How Dick Wise

The Service that Keeps Customers Sold for the Electric Wiring Co., Tulsa, Okla.

1. Roughing-in on each house finished in the shortest time possible consistent with good work.
2. Personally arranges for prompt inspection soon as roughing-in is completed.
3. Trains men in his service to know every angle of the work and keeps them year in and year out.
4. Keeps up the quality of the installation by laying down a strict standard and sticking to an intelligent schedule of operation.
5. Maintains one man with a special car for fast service on corrections, adjustments and additions, giving the householder such good service that the builder receives no complaints.
6. Has trained office assistant who knows what is going on at all times, can handle customer inquiries and can get in touch with the men wherever they are.
7. Keeps complete set of records on all jobs, properly arranged and instantly available for reference.

Removes Competition *from* HOUSE WIRING



An efficient office is essential to service. Many possible complaints never become complaints because of the timely activity of an office assistant.



Special car for fast service on corrections, adjustments, and additions.

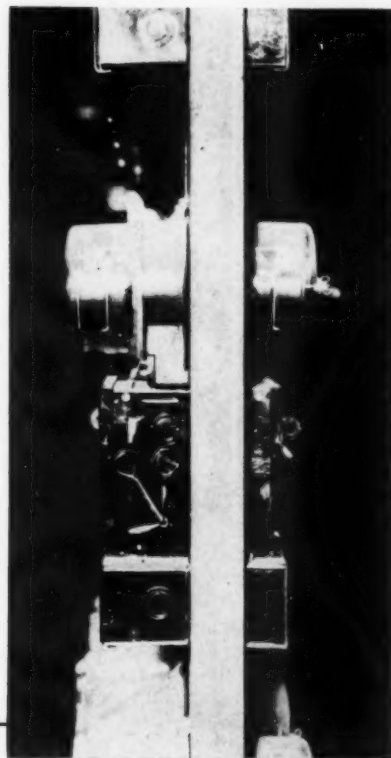


A complete set of records of all jobs are kept in proper arrangement where they are instantly available for reference.

TWO METER



Meters and switches are mounted back to back on sheet iron strips which are rigidly supported by an angle iron frame. A vertical trough made of 12 gauge iron runs down the center of the board carrying the main bus bars. Switch box troughs carry the branch bus bars.



An edge-on close-up showing the meters and switches back to back. The bus bars are confined to one side of the board, the loops for the other side being run through bushed holes connecting opposite meters.

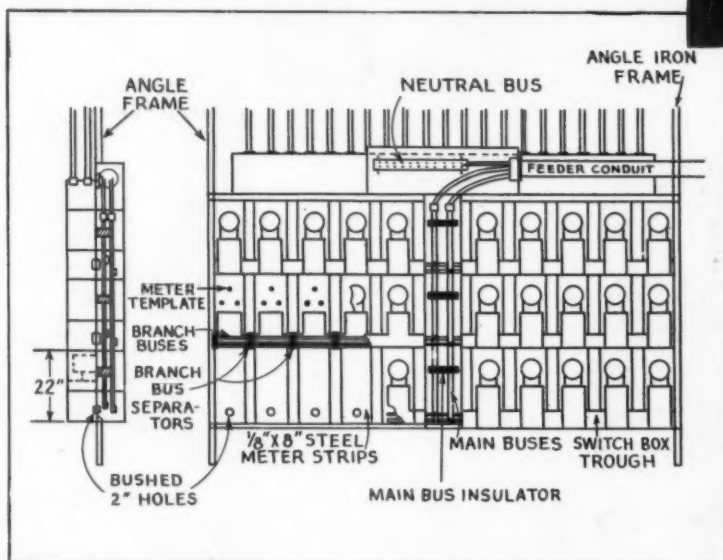


Diagram showing the general layout of the board and the use of bus bars.

Electrical Contracting, May, 1930

FACE R BOARDS

By N. OWEN HOUGHTON

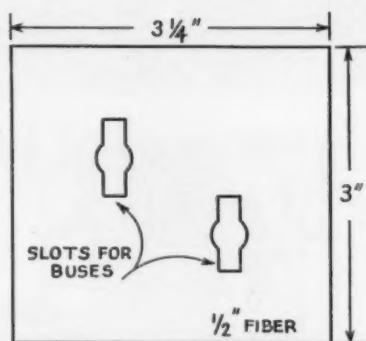
Delta Electric Co., Washington, D. C.



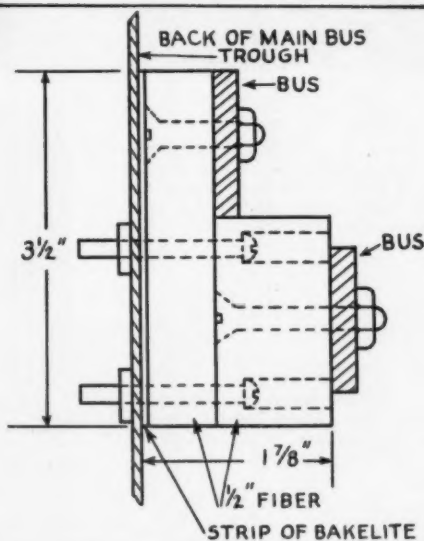
One of our older back to back installations in which the feed comes through the floor. This board contains wooden meter backs and is sub-fused. The use of bus bar eliminates sub-fusing.

Drawing of one of the main bus supports made of $\frac{1}{2}$ in. fiber. These are bolted on the service side of the perpendicular trough and hold the main buses in an offset position.

Compact and simplified apartment house installation made by mounting meters back to back and by using bus bar. One such panel is 9 ft. and contains sixty meters



Drawing of one of the branch bus bar supports which are also made of $\frac{1}{2}$ in. fiber. They are easily made by boring two holes according to a template and punching the slots with a chisel. One of them is inserted between each switch box, rigidly holding the branch bus bars in an offset position.





STOCK--

To give prompt service both day and night, the motor specialist must have an adequate stock of motors, repair parts and materials, paying particular attention to odd sizes which probably could not be purchased locally.

By J. ROLAND STOLZENBACH
President, Roland Electric Co., Baltimore, Md.

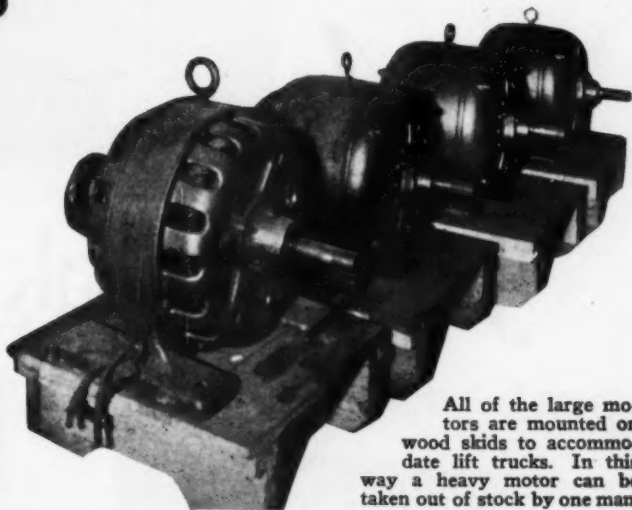


Our motor stock is made up of about one thousand units ranging in size from 1/15th h.p. up to 300 h.p. At the upper left is seen a part of the a.c. motor stock and immediately below is the d.c. stock.

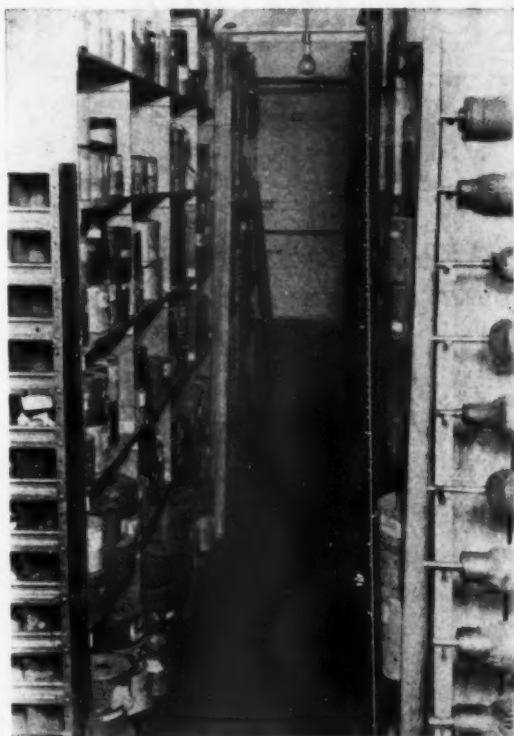
Part of the starter stock. We carry a complete line of new hand starters for both single-phase motors and d.c. motors.



A necessary part of the Motor Specialist's Service



All of the large motors are mounted on wood skids to accommodate lift trucks. In this way a heavy motor can be taken out of stock by one man.



There is a good business for the motor specialist in pulleys if he will carry an adequate stock. Our pulley stock ranges in size from $1\frac{1}{2}$ in. diameter up to and including 12 in.

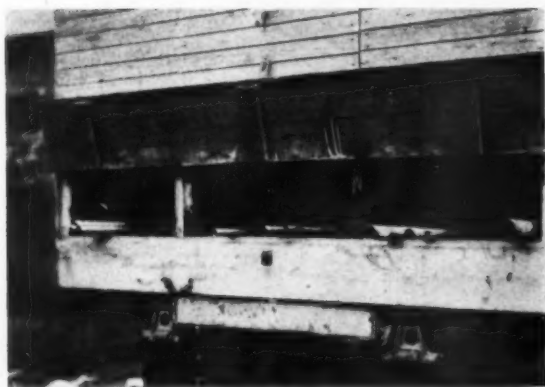
We have a complete stock of magnet wire from No. 6 to No. 33 B&S gauge, besides a full line of mica, tapes, sleeving, insulating papers, fiber, banding wire, and insulating paints. This enables us to make a quality repair quickly without relying on the usually incomplete local supply.



An office and stockroom on wheels that provides a place for both men and materials under shelter on the job. It is 21 by 8 ft., substantially constructed and mounted on a five-ton truck chassis, can be moved quickly from one part of the job to another and can be locked up tight, insuring the safety of tools and materials. Note the floodlights over the name.



A Job Stockroom on WHEELS



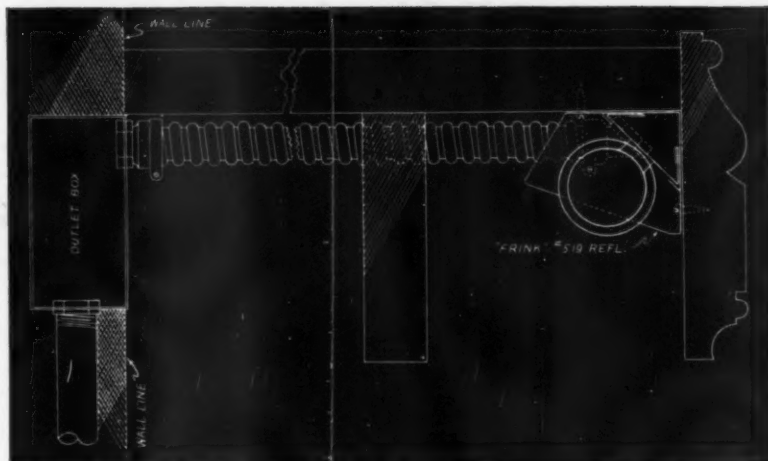
Not an inch of space in the whole structure is wasted. This conduit compartment in the rear is placed just above the side compartments and will hold 20,000 ft. of pipe.

Instead of the flimsily constructed temporary office and stockroom, which is expensive and unsatisfactory, N. E. Busby & Co., Dallas, Tex., mounts a permanent office and stockroom on wheels which can be moved from job to job.



One of the side compartments, opened for inspection. In these are kept block and tackle equipment, large tools, etc.

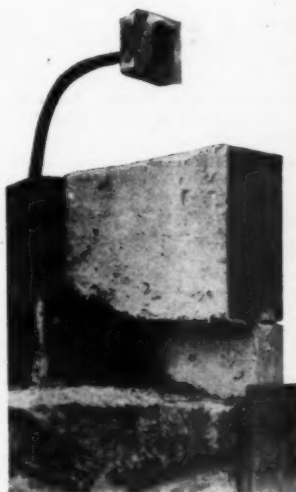
There are doors at each end, and in warm weather screens and a fan are provided. The truck is partitioned inside and electrically lighted.



Reflectors are of the trough style. Armored cable is brought out from the outlet boxes in the wall and then run lengthwise in the case.

FLEXIBLE *Book Case* LIGHTING

There are many installations deserving of illustration, not because they are revolutionary or absolutely new, but because they can be applied to many similar situations. One of these methods is shown herewith—a flexible book case lighting job, installed by the Overmeyer-Thatcher Co., Toledo, O., in the new West Toledo Public Library Branch



Outlet boxes are brought up above the wall, not in a uniform manner all over the building, but in the best way to meet the conditions at each particular spot.



Electrical Contracting, May, 1930

Range Wiring

COST FACTORS

The number of questionnaires returned in response to Electrical Contracting's request in the February issue, giving labor costs on various range installations, has been exceptionally large indicating a wide-spread interest in the subject. The returns are now being studied and the results will be published soon.

Electrical Contracting has also received many letters on range wiring labor costs. These letters, some of which have already been published, have shown a wide variation of practice in different parts of the country. The following letter received from Frank W. Connell of Philadelphia showing the effect of Code divergencies and many other factors not always taken into consideration when discussing range wiring, is worthy of study.

EDITOR

Editor,

ELECTRICAL CONTRACTING:

As a reader of your magazine for a number of years and having been engaged in the electrical business for many years, your question on the costs of electric range wiring as expressed in the February issue appears to require a more detailed study.

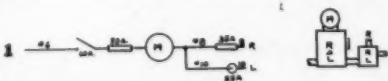
The costs involved cannot be standardized by merely obtaining labor statistics on three basic methods of wiring, viz., armored cable, non-metallic sheathed cable or rigid conduit. In fact, in my travels through various states I find that these factors are not of major consequence in the establishment of varying costs.

The initial requirement in order to establish a standard is that the requirements of the National Electrical Code be adhered to. Many localities are able to make so called economies by diverging from Code requirements either by permission of a local underwriters' board or by municipal inspection authorities. These different practices cause the widest range in costs.

The second consideration is the rate structure of the local electric utility. Your sketch shows a two-rate plan which is not in general use throughout the nation. The rate principally used is the step rate involving only one meter for domestic purposes. This latter case requires the installation of service and service entrance switch of a capacity equal to the entire connected load of the

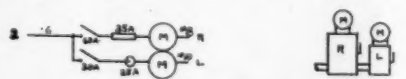
proposed range plus all other house lighting, appliances, etc. This often makes necessary the use of a 100 amp. service cabinet in connection with a 6 to 8 kw. range. The total load may be only 65 or 70 amp., but a 100 amp. switch is required and the service must be 3 No. 4 cables in 1½ in. conduit. Circuit fuses for lighting, hot water heater, and range main must be installed and connected adjacent to the service entrance cabinet. This work is generally rush work and must be started and finished the same day in order that the family will not be inconvenienced by the disconnection of the gas range which is usually removed from the place in which the new electric range is installed. A fee for inspection must also be included in the cost for the range wiring.

The accompanying sketches of typical range service installations are representative of a few of those encountered in the several middle Atlantic states and indicate various detractions from the Code standards in some cases and rate variations in others.



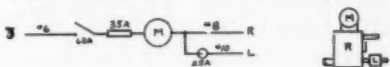
Sketch No. 1 is typical of a step rate installation made in a small home and involving a range not larger than 7800 watts. This standard range, incidentally,

at the name plate voltage of 110-220 figures out at exactly 35.44 amps. and in many cases the inspection authorities insist on a No. 6 range main as the specified No. 8 wire is limited under table A of the Code to 35 amps. This condition helps to boost costs and the range manufacturers should change the rating of this size range to show 7700 watts on the name plate so that No. 8 wire would be approved as a range main in all localities. Sketch No. 1 is strictly according to Code requirements. The No. 6 service wire is properly protected with 50 amp. fuses and service switch. The meter current coils are on the load side of the service fuses, the No. 8 range main is protected with 35 amp. fuses and the No. 10 lighting main is protected with 25 amp. fuses.

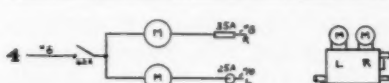


Sketch No. 2 is the one shown in your February issue. It is permitted under the Code in Art. 405-c (4) allowing up to four service switches where an equal number of metered mains are involved and all located at the point of service entrance. This permission eliminates the use of a main service switch, otherwise necessary on rate structures involving two meters for measuring lighting and

heating separately. In the sketch as shown, the No. 6 service wire has no fuse protection and the connected load without any allowance for diversity must not exceed 50 amp. so that if a range of 7.8 kw. is installed, the lighting connected load must not exceed 15 amp. even though according to the wire size shown for the lighting main, 25 amp. fuses may be installed in the lighting switch. If the connected lighting load exceeds 15 amp., which plus the 35 amp. for the range equals 50 amp. the limit for the No. 6 service wires, then the service construction must be increased to 3 No. 4 in 1½ in. conduit.



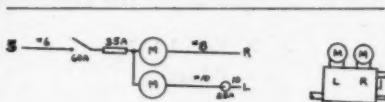
Sketch No. 3, in use in some localities, applies the one meter method but eliminates one set of 60 amp. fuse terminals. This permits of the use of a cheap plug fuse cutout box external to the 60 amp. service cabinet. If the switch is fused to 50 amp. as a protection to the No. 6 service wire, the No. 8 range main is not protected against constant overload and if the fuses are limited as shown to 35 amp. it will be approved by inspection authorities as presenting the proper wire protection; but it then cannot function properly in the full use of the range and lighting. With this connection, which is much in use, any trouble in the range or range main which causes the main fuse to blow, will at the same time interrupt all of the lighting. This practice, while economical from a first cost point of view, is certainly not good engineering practice. It may leave the customer in total darkness just at the time when light is most needed. The plan is much cheaper than No. 1 but should not represent approved practice.



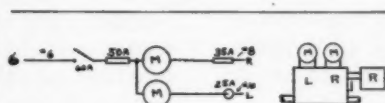
Sketch No. 4 while somewhat similar to No. 2 applies the two-meter method and uses only one switch. The range and lighting fuses are all enclosed in the switch box. No fuses are provided for the service wires. This plan is an extension of the permission of Art. 405 as mentioned in sketch No. 2. However, the Code does not mention the use of grouped fuses on the service, but specifically calls for a separate service switch and cutout for each meter where it is desired to omit a main service switch. The meters are each connected on the service side of the fuses, which is contrary to the permissive statement of 405-c (1) which permits the potential coils to be connected on the service side of the fuses. (This coil requiring such a small fraction of an ampere that no commercial fuses could be applied for protection.) The current coils, however, are to be disconnected by the opening of the service cutout. In this case, like No. 2, if the lighting load exceeds 15 amp. while the range is in use the No. 6 service wire is being overloaded beyond the 50 amp. permitted by the Code and no fuse protection is provided.

Electrical Contracting, May, 1930

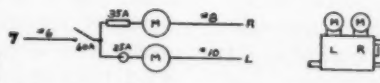
The service cabinet shown in sketch No. 4 and as wired, while not approved or listed as such, is used to provide practical fuse protection for range and lighting and eliminates a set of required main fuses.



Sketch No. 5 shows the approved wiring diagram for the service in No. 4. The main fuses may be 50 amp. if the range main is No. 6 wire instead of the No. 8 shown. In practice this would not give satisfactory service with the result that the main fuses are increased to 50 amp. and the No. 8 range main is left without safe fuse protection for sustained overloads. This plan permits of a much cheaper method than sketch No. 2.



Sketch No. 6 shows a proper adaptation of No. 5 where an additional set of branch fuses have been installed to protect the range main and the service fuses have been increased to 50 amps. This installation is more expensive than either No. 4 or No. 5; however, it is according to Code as it avoids the inadequate fusing of No. 5 and the connection of meters directly on the secondary network as shown in No. 4.



Sketch No. 7 is a plan also in use. It has fuse protection on the service side of the meters but no fuse protection for the allowable limit of the service switch and service wires. This plan eliminates a set of fuse terminals like Nos. 4 and 5 and allows for a less expensive installation.

Other factors which make for the variation from \$25.00 to \$90.00 or higher in range installations, aside from the three types of materials mentioned in your February issue, are

1. *Length of Service Conduit Run up the Wall.* Some localities extend only one conduit length from the point of entrance and carry up the rest of the distance to the service bracket with open service wires. This is permitted by the Code but it does make a very unsightly installation.

2. *Distance Between Service Cabinet and the Range.* On front of the house services it is usually necessary to carry the range main back the full length of the cellar and up to the kitchen at the rear of the house. Where the service is on the rear of the house the range main is very short

and therefore much reduced in cost for labor and materials.

3. *Method Permitted for Attaching Non-Metallic Sheathed Cable to the Ceiling Joists.* The Code requires back boards at right angles or across joists for supporting such cable (art. 507-m). Some localities permit the cable to be draped from joist to joist without any back boards.

4. *Bare Neutral Service Wires.* In some localities bare neutral services are being installed and the bare wire of two-wire assemblies of non-metallic sheathed cable having a bare conductor included for grounding purposes, is being used as a neutral current carrying wire contrary to Art. 507-d of the Code. Each of these conditions, while not standard, permit a reduction of a substantial amount in the total cost for range wiring.

5. *Elimination of Grounding of the Range Frame to a Water Connection.*

6. *Where Load Exceeds 50 Amps.* A real economy where loads exceeding 50 amp. are connected and where it is standard to install 3 No. 4 cables in 1½ in. conduit, is to substitute 6 No. 8 single braid wires in 1 in. conduit as allowed in Art. 612. These wires connected two in parallel equal 70 amp. under table A, which is the same as the No. 4 cables. The saving is about 25 per cent in the combined service costs for material and labor.

In conclusion, it is apparent from field experience that what is needed to establish more uniformity in the costs of any electrical installation, is the uniform acceptance of a National Code adopted as a national standard. Observation shows that where costs for range and other work are lowest it is due, in a major part, to the several authorities arranging for and obtaining special permission to detract from the plain requirements of the adopted Code in order to gain individual merit for apparent good management. In some instances throughout the nation these authorities are members of the Code making bodies, thus serving the dual function of making and breaking the same Code. Electrical manufacturers invest annually considerable capital and time in the development of devices and materials to meet adopted Code requirements only to find in many cases that their materials and methods have no market due to the adoption of sub-standard materials and methods. This latter practice is also a difficult matter for the electrical contractor to reconcile because if he quotes on the job according to his knowledge of labor costs based on Code requirements he may find that his bid is high due to many of the substandard practices mentioned being permitted in the particular locality.

This is a fertile field for the A. E. I. which advocates fair competition and the International Association of Electrical Inspectors which advocates strict adherence to the Code, to do some valuable work in obtaining real economy in electrical installations, but not so called economies which are in reality merely cheap first costs sometimes resultant in fire and personal hazards.

FRANK W. CONNELL.

Philadelphia.

Electrical Contracting

With Which Is Incorporated The Electragist

S. B. WILLIAMS
Editor

Chapter Movement Growing

SIXTY percent of the membership of the Association of Electragists is now organized into local chapters—a remarkable result in a little over a year's time.

As most of the chapters are kept energized by a paid secretary, the present situation is the best from the standpoint of contractor association work that the industry has ever enjoyed.

For the most part Electragist chapters are working along conservative educational lines with the members, and securing for them a working cooperation by the rest of the electrical industry. Even to date the results have been remarkable. The further this movement grows the stronger will be the position of the electrical contractor.

The national association is speeding up the formation of local chapters in order to be able to petition for a trade practice conference with the Federal Trade Commission. When that has been accomplished there will be no longer any necessity for strong-arm local set-ups for controlling competition.

The St. Louis Investigation

THE attorney general of the state of Missouri is now conducting an investigation into the activities of the several electrical contractor associations in St. Louis to determine if these associations and labor are acting in restraint of trade as alleged. From the standpoint of contractor association work, this investigation, if carried through without bias, should be of great value because it will help to determine what contractor associations may and may not do and remain within the law.

The four associations against which the

attorney general is directing his investigation are The Electrical Listing Bureau, The Electrical Protective Association, The Electrical Approval Bureau and The Electrical Employers' Association.

The Listing Bureau is engaged in furnishing quantity surveys for labor and material under a plan whereby the successful bidder pays the entire cost of preparing the estimate, thereby cutting down the tremendous waste that the industry has been experiencing in the preparation of non-productive estimates.

The Protective Association collects the premiums paid under the wage agreement with the union which provides that the employer pay 35 cents per man hour for insurance, old age pension and disability and pays these premiums to the insurance company.

The Approval Bureau, the details of which were presented before the last convention of the Association of Electragists, is for the purpose of assuring an owner that the prospective building will be built in accordance with the accepted plans and specifications and that these plans and specifications will be in accordance with the local wiring regulations. Through an agreement with organized labor, union men will not work on a building unless it has been certified by the Approval Bureau. The public pays nothing for this service. In fact, the theory back of the bureau is to protect the public and insure it getting what it called for.

The charge has been made that wiring costs have risen excessively and are out of line with architects' estimates. Inasmuch as it is a known fact that only a small number of architects' offices are equipped to lay out electrical work or write electrical specifications, it is hard to understand why any great credence would be given to their estimates. In fact, the history of electrical contracting has been that architects, when unable to secure low bids originally, have, time and time again, purposely forced down prices through unfair methods, with the re-

sult that competitive electrical work, for the most part, would have been conducted at a loss had it not been for the extras. Frequently the only way these losses could be offset was for the contractor to "skin" the job after he received the contract. The Approval Bureau prevents this.

Under these conditions the people of St. Louis undoubtedly are paying more for their electrical work than formerly, but they are undoubtedly getting more value than they did before, inasmuch as they are now securing the jobs they contracted for. Moreover, electrical contractors are entitled to a profit on their work and surely no community can complain of such a motive.

At a time when the Federal government is helping industry, through the trade practice hearings of the Federal Trade Commission, to arrive at agreements for the purpose of preventing ruthless and unfair competition, it is strange that any State would attack a plan the purpose of which is to reduce waste in the preparation of useless estimates, in unintelligent bidding and in gambling and substitute therefor a plan based on a profit which any business man would admit was far from being excessive.

Extravagant Statements

IN the promotion of new or improved systems of wiring extravagant statements frequently are made by the sponsors that are unfair to others and unfair to the system itself.

Of late, many claims have been made for bare neutral wiring that, on the face of it, are great exaggerations. One such claim was to the effect that a light and power user by substituting a bare neutral job for the one he had, saved from 25 to 30 percent monthly on

his bill for energy. The answer, of course, was that the customer not only had a complete job of rewiring, thereby stopping the leaks; but the job was remetered with a smaller number of meters. He could have saved as much by using an insulated neutral as a bare neutral.

Another claim that seems to have been made is that bare neutral reduces the cost of wiring considerably; as one report had it, up to 30 percent. Obviously, if the neutral wire was left out entirely there would not be a saving of that order. It is true that in a number of instances the use of a bare neutral will permit the use of a size smaller conduit, but a study of the conduit tables will show that this can happen in less than half the cases. It is also true that bare wire costs less than insulated wire. But these are not differences of such an order as to warrant everybody getting "all-het" up over it.

Of course, if there is a saving, even of only 3 to 5 percent, it should be made, provided there are not any additional hazards—and this, of course, is not known.

More than a thousand installations have been made in Evansville, Indiana. How have they stood up? What is the condition of a bare neutral after two years of service in different occupancies, and particularly where water might get into the conduit? Have any leakages developed on steel frame work buildings, gas or waterpiping, and of what order? These and a lot of questions, it would seem, might now be answered by an impartial investigation of Evansville wiring.

This might be an excellent job for the field-tried procedure committee of the Electrical Committee to work on.

Bare neutral is either safe or unsafe as it is now installed. The sooner we find out, the sooner we will dispose of one source of industry bickering.

Good Tools Save Money

ELECTRICAL contractors are giving more attention to labor-saving tools today than ever before. Good tools pay for themselves quickly.

For that reason ELECTRICAL CONTRACTING is featuring tools in the next issue. There are all kinds of tools. Only the best are worth buying.

Good tools not only reduce the time it takes to do a particular job but they reduce labor fatigue. When wiremen get tired from heavy work they naturally lose their efficiency.

ELECTRICAL CONTRACTING has been making a field study of this subject and will present it fully in the June issue.

Code Chats

A Monthly Discussion of Wiring Practice and Questions of Interpretation, Presented with a View Toward Encouraging a Better Understanding of the National Electrical Code - - -

Conducted by F. N. M. SQUIRES

Assistant Chief Inspector, N. Y. Board of Fire Underwriters

Common Neutrals

Does rule 807-e, or any other rule, forbid the use of three to eight circuits with a common neutral except where this practice is specifically permitted in 613-e?

No. There is no intent in 807-e to prohibit either the grouping of circuits around a common neutral or to prohibit the use of 3 or 4-wire circuits or other multi-wire circuits using a common neutral.

The limit of eight circuits specified in 613-e was set with but one thought in view—that of keeping the number of wires to be grouped together within the limit permitted by 503-p-q. There seems to be no reason for objections to using a common neutral with any number of circuits, providing the carrying capacity is sufficient for the maximum load to which it may be subjected.

* * *

The 1½-In. Outlet Box

Many contractors deplore the Code requirement for the use of the 1½-in. deep boxes on concealed work. But they should realize that this rule was brought about by the degeneration of the old style outlet box which had plenty of room for splices to the so-called outlet box of yesterday, which was nothing more than an outlet plate with no room for splices. There was such a storm of protest against these "stud boxes" on the part of inspectors, contractors, and fixture people that the Code was changed to the requirement for the 1½ in. deep box.

Where the outlet box strikes a ceiling beam or wall stud, 703-b allows the use of a box of not less

than ½ in. in depth rather than weaken the building by cutting into any part of its structure.

But lath and plaster are not part of the building structure and the Code makes no provision protecting an unfortunate owner against a ruthless cutting of the lath and plaster in order to set a 1½ in. box. Some inspection departments, however, are allowing a divergence from 703-b in that on old house work they do not require the 1½ in. deep boxes but allow the use of the old style shallow box. But as this practice is not nationally recognized it should be done only in those sections where it is allowed by the inspection department having jurisdiction.



ALWAYS PRESENT AT WEEKLY ASSOCIATION MEETINGS:—Some members of the Erie Electrical Contractors' Association, Erie, Pa., who have a reputation for always being present at the weekly dinner and luncheon meetings of the association. Left to right, standing, they are R. D. Gott, Electric Sales & Service Co.; Elmer Knobloch, Knobloch Electric Co., and C. C. Hill, Hill Electric Co., president of the association. Seated: W. G. Hurley, Delmar Electric Co.; M. B. Schutte, Schutte Electric Co., vice-president of the association, and P. M. Geary, Underwriter inspector and secretary-treasurer of the association.

Flexible Cords in Show Windows

Rule 614-c is very definite in its meaning and can hardly be misconstrued, yet is quite flagrantly violated. It requires that unless provided with metal armor, flexible cords shall not be used in show windows except on lamps or appliances exhibited for sale.

How often we see advertising signs, spot lights, fans, etc., in show windows, very often equipped with hazardous substandard lamp cord, and now we are finding an influx of the gas tube (neon) window signs hanging in show windows and supplied with unarmored flexible cords. There is a lot of missionary work and housecleaning to be done on these matters.

* * *

Yard Wiring Rules

A correspondent writes in that "Considerable discussion and confusion has resulted in interpreting the section of the Code regarding outside wiring—in particular, to the size of wire required for overhead runs to outbuildings, such as garages, barns; and the like, or, in the case of gas stations, to floodlights of 1,000 watts. According to the section covering yard wiring no minimum wire size is mentioned, leaving the size to be determined, evidently by the connected load, voltage drop, and considerations of mechanical strength, determined by the span. However, some authorities consider that Section 402-a,—Service Wiring—requiring a minimum size of No. 10 soft copper must be applied to the

Electrical Contracting, May, 1930



PLANT OF THE AUSTIN MANUFACTURING CO., HARVEY, ILL., U. S. A.
Completely Equipped with TRICO Renewable Fuses

The Home of the Austin Autocrat

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is Electrically Protected With the Autocrat of Fuses

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They're "Powder-Packed"

Money-Saving
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No Premature Blowings
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No Oxidized Contacts
No Charred Casings
Copper-to-Copper Contacts
Reduced Watt Loss
Time Lag

And they cost no more
than other makes of
renewable fuses

At Harvey, Ill., a suburb of Chicago, there is the nationally known plant of the Austin Manufacturing Co., whose "Autocrat of the Road" leads their line of road making, rock crushing, earth handling, and street cleaning machinery. For dependable and efficient electrical protection in their great plant they selected TRICO Renewable Fuses.



Approved by
Underwriters

TRICO FUSE MFG. CO., 1007 McKinley Ave., Milwaukee, Wis.

RENEWABLE FUSES—PLUG FUSES—NON-RENEWABLE FUSES—FUSE PULLERS

section covering yard wiring, irrespective of load or distance."

The subject in question in the above query relates to circuit wiring run as overhead open work to outbuildings and for governing rules we must refer to Article 3 of the Code. The only reference to Article 4 is in Section 306-a which requires that wiring on the exterior of building walls shall comply with the requirements of Section 403. We should not go to other sections of Article 4 except for those parts of the installation which are really the service conductors from the street supply line to the first building in which the service switch is located.

The fine print note to the caption of Article 3 explains what the article covers and also refers to Part 2 of the National Electrical Safety Code. In this latter Code we find that the use of soft copper is not recommended.

Then, as our inquirer states, the size of wire is determined by the load, the voltage drop, and other considerations but there is nothing to prevent the use of No. 14 wire providing it, or its circuit is not overloaded, and it is of sufficient mechanical strength for the use to which it is put.

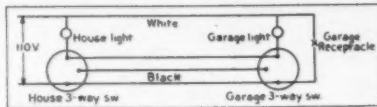
The Code does not attempt to regulate line drop as no special hazards are encountered in this.

* * *

The Size of a Common Neutral

What rule determines the size of a common neutral for 3, 4, 5, 6, 7, or 8 circuits?

The size of the neutral is determined by the provisions of section 613 (see last sentence of 613-e), that is, according to the area supplied. This, however, is but the first step in arriving at the size necessary, for we first apply 613-d to each circuit and find what capacity of conductors is necessary to supply that circuit. Then according to what system (whether 3-wire, 4-wire, or 5-wire) we find what load is on each side of the system. The neutral then must be of a size sufficient to carry the load of the heaviest side except that in a 5-wire, 2-phase system it must be 140 percent of that. But if the



A FOUR-WIRE HOOKUP FOR GARAGES:—Several contractors in Minneapolis, Minn., are using a simple method of hooking up a detached garage with the house when the source of current is in the house by using only ½-in. conduit, only four wires and complying with all ordinance requirements using a polarized system. The requirements are: One light over the rear porch of the house; one light in the garage, both lights to be on 3-way switch and a receptacle in the garage which is independent of the switches. The accompanying diagram shows how this is accomplished. It is noted that the center switch contacts are hooked together, one of the runners is used to connect one side of the garage receptacle with the source of current, and the other runner ties together one side of the lights.

load to which the neutral may be subjected exceeds 200 amp., the demand factor, as given in the table in 613-e, may be applied.

Another way of looking at the same thing and arriving at the same result is to assume that but one side or one phase of the multi-wire system was working, and that the heaviest loaded side. Then provide neutral capacity for that load according to the demand factor table of 613-e.

* * *

Flame Proof Covering in Pull Boxes

INTERPRETATION 28

QUESTION: Over the top of a large switchboard a large pullbox has been installed. This box is approximately 42 feet long by 6 feet wide and 29½ inches deep and contains 221 wires ranging in sizes from No. 14 to 1,000,000 CM, all rubber-covered. The wires are neatly arranged, being racked on insulated iron bars with 9-inch vertical separation and practically no horizontal separation, the wires being carried horizontally through the box.

Does this box constitute a location "as in the rear of switchboards", as mentioned in Paragraph d of Section 1302, so that a flame-proof outer covering is required for the wires in the box.

FINDING: No.

* * *

Means of Disconnecting Motors

INTERPRETATION 27

QUESTION: A motor installed on 220-volt or 550-volt a-c. having in sight of the motor a push-button magnetic switch to start and stop the motor. The switch cuts all ungrounded wires when open. Does the Code under Rule 1003, or elsewhere, require a disconnect means other than circuit fuses ahead of the installed magnetic switch?

FINDING: Paragraph c of Section 1003 does require a separate disconnecting means in addition to the described push-button operated magnetic controller.

A single disconnecting means may serve a group of motors if the provisions of the sub-paragraphs 1-4, inclusive, of Paragraph c of Section 1003 are satisfied. Paragraphs d and e of this section specify the types of disconnecting means which may be employed. Paragraph d recognizes plug fuses as a disconnecting means for small motors when permitted by the enforcing authority. Plug fuses may not be used on 550-volt circuits and may be used on 250-volt circuits, either a-c. or d-c., only as described in (B) of the table of Paragraph f of Section 803.

* * *

Service Through Attics

INTERPRETATION 29

QUESTION: Does Paragraph a of Section 404 prohibit service conductors being run in attics?

FINDING: The paragraph specifies that service entrance equipment shall be located "as near as practicable" to the point where the service wires enter the building. The paragraph may not be interpreted as prohibiting the running of service conductors, fused or unfused, through attic spaces when it is impracticable to locate the service equipment or the point of entrance of the service wires where the running of conductors through the attic space can be avoided. The enforcing authority is presumably the judge of what is impracticable in this instance.

* * *

Common Neutral

INTERPRETATION 30

QUESTION: When each of three feeders from a common set of mains supplies two or more floors of a single building, may a neutral be used common to all three feeders or must the use of a common neutral be restricted to conditions where each feeder supplies a single floor?

FINDING: The common neutral may be employed for up to not more than three sets of feeders without regard to how the load on any one or all of the feeders is distributed throughout the premises.

QUESTION: In the case of a warehouse occupancy and for lighting load only, what method shall be followed in calculating the size of a neutral which is common to two or more feeders as above?

FINDING: The size of the neutral conductor should be determined on the basis of the calculated load on the neutral subject to a demand as per item 12 of Paragraph d of Section 613 plus a further demand allowance in accordance with the table of Paragraph e of Section 613.

These calculations should be made quite independently of calculations to determine the sizes of the other conductors of the feeders of the circuits to which the neutral is common. In allowing for "demand" to neutral conductors, care must be taken to have the neutral conductor large enough for the load that may be placed upon it when any automatic overload protective device in any "outside leg" is opened.

QUESTION: May a neutral conductor, common to two or more feeders, be reduced in carrying capacity beyond the points where the first or second additional feeder load is connected to the common neutral?

FINDING: Yes.

Entirely Different*

*DIFFERENT in operating
principle from any
other time switch
on the market and
BETTER because...

... the reserve power of this little
operating motor makes possible
BETTER time switches



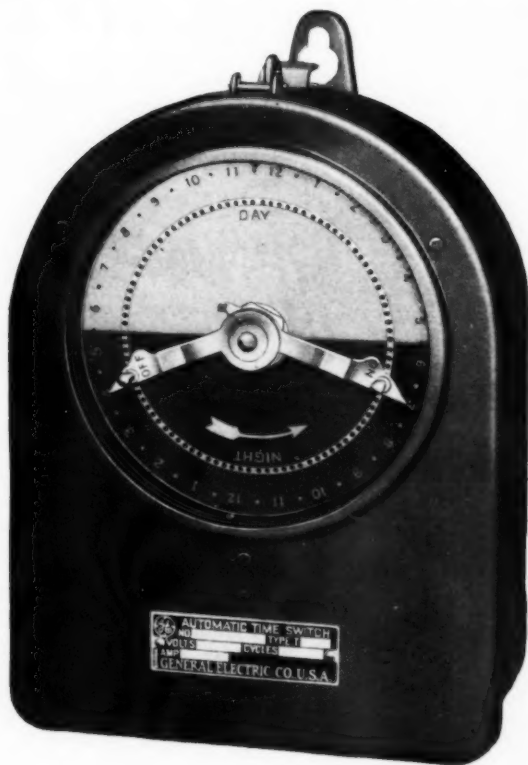
THE success of G-E time switches is largely attributed to the little *synchronous* motor (a Telechron product) which actuates the switch at the right time.

These are the important practical advantages of a motor-operated time switch: Accuracy beyond question. Reliability, assured by the continuity of electric service. No winding. Freedom from the necessity of periodic attention. Flexibility in locating the switch.

To the most discriminating buyer of electric devices, or for the most exacting requirements, General Electric switches can be offered as the logical choice. They are available through G-E distributors.



*For turning circuits
"on" and "off" auto-
matically at the right time*



621-9

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

A. E. I.

*News and Service
Information*

*Material for this department is supplied by the headquarters staff of the Association of Electragists, International,
420 Lexington Avenue, New York, N. Y.*

Chapters Urge White Pipe Standard

Electragist chapters in all parts of the country have passed resolutions urging adoption by the industry of standardization on the manufacture and distribution of metallic-coated, or so-called "white", conduit and fittings. The resolutions, copies of which have been sent to the National Electrical Manufacturers' Association urging prompt consideration by conduit manufacturers, point out important economies to be effected in standardizing on the single type of conduit and fittings, which should result in consumers securing this highly satisfactory product at prices as low or lower than present levels for the enameled or "black" type. The A. E. I. Standardization Committee has endorsed standardization on "white" conduit and fittings.

* * *

O'Meara Active in Lake States

Frank M. O'Meara, A.E.I. field representative, has just completed an intensive chapter organization schedule in Southern Wisconsin, sponsored by the Milwaukee Chapter, which has resulted in new chapters being chartered in Fond du Lac and Racine, and plans for similar groups in Beloit, Appleton and Janesville.

During ensuing months prior to the annual convention at Milwaukee in August, Mr. O'Meara will be active in Michigan, Ohio, Indiana, Illinois, Iowa and Minnesota, assisting local contractors' groups in forming Electragist Chapters.

Local contractor groups in the states named desiring Mr. O'Meara's help in forming chapters before the convention should communicate promptly with the A.E.I. headquarters office to permit of his arranging his schedule.

Tentative ELECTRAGIST CONVENTION PROGRAM

Hotel Schroeder, Milwaukee

Sunday, August 17

Executive Committee Meeting,

Monday, August 18

MORNING: Open Convention Session (for chapter delegates and members only); appointment of Committees; recommendations for Trade Practice Conference Rules; trade policy matters.

AFTERNOON: Chapter Conference luncheon and Round Table (Presidents and Secretaries of Chapter with A.E.I. officers); discussion of Chapter activities and problems.

EVENING: Entertainment.

Tuesday, August 19

MORNING: General Convention session.

AFTERNOON: Luncheon meeting for Joint Committee of NEMA and A.E.I. conference on motor merchandising; Labor section meetings.

EVENING: Entertainment.

Wednesday, August 20

MORNING: General Convention session.

AFTERNOON: General session; reports, resolutions and forum discussion; election of Executive Committee; Eastern, southeastern, Great Lakes, Mountain, Western Canadian Divisions.

EVENING: Banquet.

Thursday, August 21

Field Day: Golf, etc.

Cost of Doing Business Survey

Early replies to the questionnaire on overhead cost sent all A. E. I. members last month indicate that a large fund of valuable information will be made available for study and compilation. In most cases, members making the return send in their figures in detail, in complete and accurate form, making possible a reliable presentation of typical overhead cost experience based on a large number of individual cases.

The survey includes compilations of overhead percentages for contracting businesses of various sizes under the varying conditions of large cities and smaller towns, exclusively contracting, contracting and merchandising, motor specialists and other classifications, with ratios of overhead as applied to gross business, to prime costs or to labor. After a reasonable time for receiving all replies, the survey will be completed, with a summary of the results available to members.

* * *

Advocates American Standards in State Safety Rules

In connection with the electrical provisions of a General Industrial Safety Code proposed for the state of Nebraska at hearings in Omaha and Lincoln during April, the A. E. I. has recommended the incorporation in State safety codes of the National Electrical Code, the National Electrical Safety Code, and the Underwriter's Laboratories standards

through a letter addressed to the American Standards Association by Allan Coggeshall, acting in behalf of the A. E. I. as chairman of its Committee on Wiring Methods and National Electric Code.

Inasmuch as the requirements in these comprehensive American standards governing electrical installations and products have been drawn and are currently revised with special regard to protection against personal and property hazards, the committee recommends them as appropriate and adequate for incorporation in industrial safety codes of states and other political sub-divisions, with the further advantage of securing uniformity in safety requirements as between states.

* * *

Census Information Important

For the first time in the life of the electrical industry figures are being gathered through the Census of Distribution, commenced on April 1, which can serve on a basis of high authority in analyzing nationally the true flow of electrical products and materials. With every retail outlet in the country (including concerns engaged exclusively in electrical contracting) making returns under heading No. 14 of the "General Retail Schedule", and submitting the general commercial data requested under other headings, important basic information will be developed, inval-

uable to independent business men in discovering their relationship in the present picture and determining their future policies for profitable operation.

1. The number of concerns similarly engaged will be determined, classified into volume groups and according to population of cities and towns where located.
2. Total volume of various classes of electrical products and materials sold at retail will be found. Similar information gathered in the Census of Wholesale Distribution and Census of Manufacturers will provide an approximate means of comparing the principal channels of electrical trade.
3. Principal expense factors will be analyzed.
4. The relation of cash, credit and installment sales to total business done will be shown.
5. The proportion of electrical products sold at retail by other than electrical retail outlets will be available.

Commenting upon the classifications listed under heading No. 14 "Electric Appliances and Supplies," Laurence W. Davis, representing the A. E. I. on an electrical industry committee invited to collaborate in the preparation of this section, points out that the industry was limited to only eight sub-headings or items, and it was found accordingly difficult to provide for as much detailed information as would have been desirable were greater space allotted. The work of the census enumerators will be completed within a short time, but it is estimated that the final census reports will not be available before 1931.

Toledo Chapter Invites Non-Resident Membership

An amendment to its Constitution and By-Laws providing for non-resident membership has recently been adopted by the Toledo Electrical Contractors' Association, affiliated with the International as the Toledo Chapter, A. E. I. Under the new clause, electragists established within a radius of twenty-five miles of Toledo are eligible on a commuted dues basis. Members in this class enjoy all the chapter benefits and privileges excepting special group services available to members in Toledo and suburbs, but which it would be impracticable to administer over a larger area. It is believed this plan will strengthen the chapter membership and extend the effects of its constructive program, but it is even more important that individual electragists in isolated and rural communities within the area where there are not sufficient numbers of contractors to form separate chapters, will now have opportunity for closer participation in association work.

Clarence F. Hammer, executive manager of the Toledo Chapter, writes that very satisfactory progress is being made by the members in improving local conditions, and while business levels are below normal, increasing interest in the chapter activities is evident, with excellent attendance at meetings.

NEW MEMBERS

The following applicants have been accepted into the A. E. I. since the publication of the list in the April issue:

ALABAMA

Birmingham:
Wheeler Electric Co.

LOUISIANA

New Orleans:
Vic Campbell
E. M. Charles
Electric Craton

MASSACHUSETTS

Worcester:
Warren & Bigelow Electric Co.

MICHIGAN

Detroit:
Charles J. Eno
Indiana Village Electric Co.
Jaenichen & Goddard Electric Co.

Thornton Electric Co.
Merle Van Norman

OHIO

Cheviot:
Charles A. Vogt Electric Co.
Cincinnati:
Bayer & Woelfel
Thomas J. Donnelly
Horstmann Electric Co.
The Parkway Electric Co.
John Wengert
Carl S. Zink Electric Co.

TENNESSEE

Chattanooga:
Brown Bros. Electric Co.

TEXAS

Austin:
J. O. Andrewartha

Fox & Schmidt
Harper & Linscomb
B. E. Howell & Son
John L. Martin

Breckenridge:
City Electric Co.
Dick Electric Shop

Dallas:
Cockrell Electric Co.

San Antonio:
Alterman-Cude Electric Co.
Graham-Collins Electric Co.
Kirkwood & Wharton, Inc.
Lloyd-Peale-Dillmer Electric Co.

Schroeder Electric Co., Inc.
A. H. Shafer
Thomson Electric Co.
Travis Electric Co.
Vollmer Electric Co.

Martin Wright Electric Co.
Wright Bros. Electric Co.

WISCONSIN

Beloit:
Carroll Electric Co.
L. Fiske Electric Co.
A. Sobel & Son
R. A. Stoller Electric Shop
Fond du Lac:
Kaufman Electric Shop
B. Krautsch Electric Shop
Krueger Electric Co.
Londre Electric Co.
Maze Electric Shop

CANADA

WINNIPEG, MANITOBA:
George Brooks
The Levy Electric Co., Ltd.

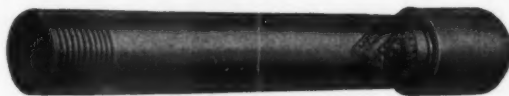
ONLY QUALITY MATERIALS *in* *large commercial structures*



Triangle Quality wiring materials are the choice of building owners, architects and engineers and they build prestige for the contractor. Requirements for towering skyscrapers are most exacting and wiring materials more than ever are selected for their ability to serve reliably over long periods of time. Triangle Black-enameled Rigid Steel Conduit, Triangle Hot-dipped Galvanized Rigid Steel Conduit, and Triangle Rubber Covered Wire are the last word in quality. Start now. Build prestige for yourself by using Triangle materials on every job. The work is speeded, labor costs reduced and profits are increased.



Triangle Hot-Dipped Galvanized Rigid Conduit
(White)

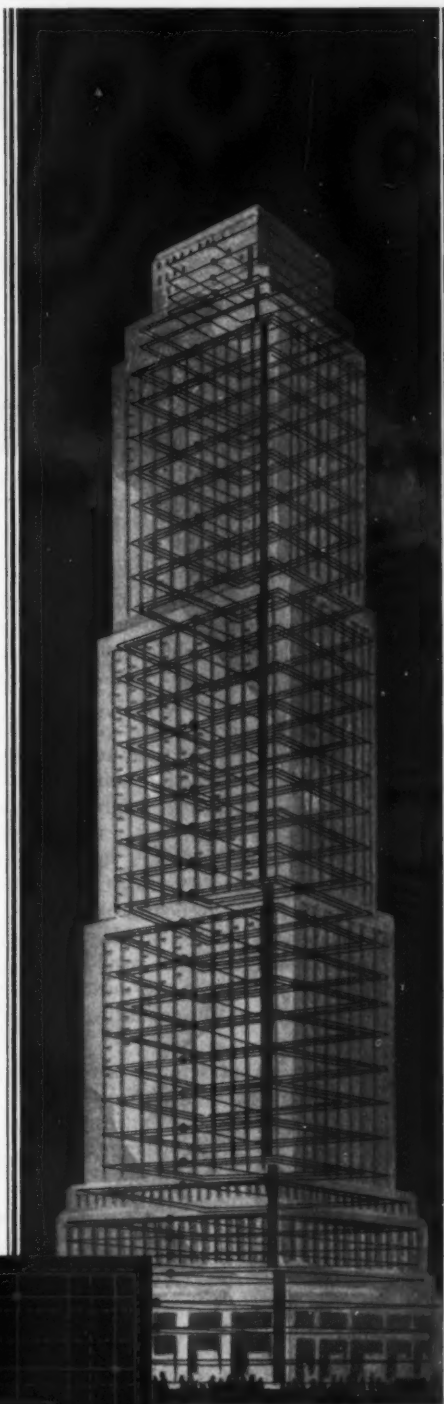


Triangle Rigid Conduit
(Black)



Triangle Rubber Covered Wire

A typical floor plan in a large commercial building showing the electrical layout.



The Triangle family of products meets every requirement on every job.

TRIANGLE CONDUIT CO., Inc.

General Offices: DRY HARBOR ROAD and COOPER AVENUE, BROOKLYN, N. Y.

Factories: Brooklyn — Chicago — Wheeling, W. Va.

In Canada: Canadian Triangle Conduit Co., Ltd., Toronto

In the Editor's Mail



Convenience Outlet Heights

Editor,
ELECTRICAL CONTRACTING:

A point of information, which, to my mind, is very important, is in regard to the installation height of convenience receptacle outlets in residences, especially in new homes. I have noted outlets placed anywhere from the floor up to about 2 ft. above the floor and to my recollection don't remember of any standard height. Also, in regards to heights of wall bracket lights I know switches are put in usually from 4 to 4½ ft. Of course, if outlet is in baseboard, the height of baseboards have to be taken into consideration. What I would like to find out is, what is the most common and practical mounting height?

As a small town contractor, I cannot afford to attend association meetings as it means considerable expense and time traveling places where a chapter is located and yet I believe we should all try to follow the same high standard of electrical installations, whether it be city, town or village.

R. L. Fritz.

Luverne, Minn.

* * *

Unestimated Range Wiring Costs

Editor,
ELECTRICAL CONTRACTING:

We have been installing ranges for the local power company for a flat charge of \$60.00.

I think there is a little mistake in your diagram using 3 No. 6 wires in 1-in. conduit, we have to use 1¼-in.

Material cost averages \$31.00 and one man should make the installation in eight hours; but we find ours average 12½ hours, due to never having everything ready. The linemen have to change from two to three wires in most instances, the stove isn't always on the job when you are ready for it and you can't take out the old range until you are ready to install the new one. We are therefore compelled to go to the job several times, which in our case, so far, has been mostly in the outlying districts not furnished by gas.

J. P. McMahon,
The Macs.

Bristol, Conn.

[The 1930 Code permits the use of 3 No. 6's in 1-in. conduit for short runs such as service entrances.—Editor.]

* * *

Wants Information on Side Lines

Editor,
ELECTRICAL CONTRACTING:

The other day I read of a man who went into a store and said he wanted to buy a typewriter.

"We don't handle typewriters," said the clerk.

"That's strange," said the customer—"isn't this a drug store?"

Not only in drug stores but in many other lines of retail business the basic stock today is supplemented by many side lines. I am wondering if you have made any investigation of this recent tendency in merchandising. Is it more profitable to stick to one's principal line of merchandise, or to add lines which are generally sold by other types of stores?

Specifically I should like to know

what has been the experience of lighting fixture dealers. I have a letter from one of our dealer-members who says:

"Can you suggest some line kindred to lighting fixtures which will add to the income of this organization without materially adding to the overhead? We do not have room for a representative display of occasional furniture, or lamps. We would not care to go into the radio racket at this time. Our past experience with appliances has not been such as to cause us to care to repeat it. What are other dealers doing?"

I shall be grateful for any information that will enable me to answer this inquiry.

Chas. L. Benjamin,
Artistic Lighting Equipment Ass'n.
New York, N. Y.

(ELECTRICAL CONTRACTING will be glad to hear from any fixture dealers who have had some experience with side lines. Editor.)

* * *

Average Range Wiring Price \$56.25

Editor,
ELECTRICAL CONTRACTING:

We are returning questionnaire in regard to range installation which appeared in your February issue. We are pleased to think that you are going into the matter but we are at a loss to know where the power companies get the information that we are robbers in this part of the country. If a contractor has a Ford and uses it he is lucky.

In the past few years we have wired quite a few ranges along the lines submitted by you in the February issue but in all our experience don't think we ever found one quite so easy as the installation you have laid out. One objection we have is BX cable coming up through the floor without protection. We either conceal the cable or use pipe believing that in a kitchen where floor is washed that sooner or later trouble will occur at floor line.

We have picked twenty-eight range installations at random and the average price was \$56.25.

Several were on second floors with meter in basement, some of the grounds required a run of 40 to 50 ft., sometimes larger wires were

(Continued on Page 130)

H&H



LIGHTING

OUTLETS

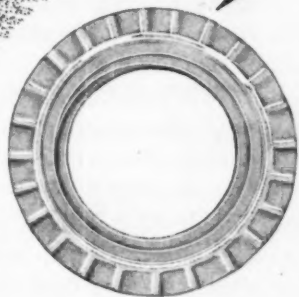
TWO-PIECE

for 4"
BOXES

No. 7734



No. 7732



**PLAIN RING OR
SHADEHOLDER RING**



Just Out

in a new size for
4-inch boxes—to round
out the popular line of 2-
piece Porcelain Pull Receptacles.

Clear, brilliant-white, finely-glazed
porcelain, with cord pull for ceiling work,
chain pull for wall installation. Made elec-
trically and mechanically dependable by the
standard H & H socket mechanism; regularly rated
at 250 Watts; furnished if specified with 660-Watt
rating at a slight added cost. Conspicuously attractive to
the Contractor AND his customers for stylish, serviceable wiring
in kitchens, laundries, bathrooms, halls, closets, basements . . .

HART & HEGEMAN DIVISION

THE ARROW-HART & HEGEMAN ELECTRIC CO.

HARTFORD, CONN. MAKERS OF ELECTRIC SWITCHES SINCE 1890

THE CASH VALUE

of well known brands

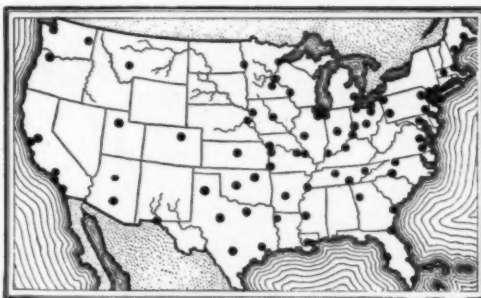


ONLY nationally advertised products are offered to dealers by the General Electric Supply Corporation.

The names are household words—General Electric EDISON MAZDA lamps, Hotpoint appliances, Thor washers and ironers, Telechron springless electric clocks, and all standard General Electric merchandise and equipment, such as fans, cleaners, sun lamps, wiring devices, etc.

You know the retail value of these trade names, their sales-developing power. You know how readily customers accept these well-known brands . . . how much time you save in selling and in demonstrating . . . how great is the prestige which accrues to your store when you handle such widely advertised products.

Important to you, also, is the assurance that you can *depend* on prompt delivery of General Electric merchandise. Your store is within a few hours—or minutes—of adequate wholesale stocks, main-



. . . to serve better the electrical needs of America

tained at more than 80 different points throughout the United States. *Special delivery service* from the house nearest you, permits you to keep your inventory investment at a minimum.

Such efficient distribution of merchandise enables you to take almost instant advantage of your customer's willingness or need to buy. When you have an electrical need—*write!*

Join us in the General Electric Hour broadcast every Saturday evening over a nation-wide N. B. C. network.

GENERAL ELECTRIC SUPPLY CORPORATION

GENERAL OFFICES

BRIDGEPORT, CONNECTICUT



This backing helps you get REWIRING business, too

ALL over the nation, wise electrical contractors are going after *rewiring* business. The tremendous advertising campaign behind the G-E Wiring System is a decided asset to those who install General Electric Wiring Materials.

Nearly everybody knows the G-E Wiring System. . . . the only wiring installation that's nationally advertised. Just now, when so many are deciding to make the old home do, rewiring—the General Electric way—has its greatest

appeal. The comfort, convenience and beauty it can add to homes are familiar to people in *your* town.

If you handle the G-E Wiring System, these prospects are half sold—or wholly so—before you call. And there's generous promotional assistance ready for your local use.

Get General Electric prestige behind *you*. Write **TODAY** for full data. Section G-295, Merchandise Dept., General Electric Company, Bridgeport, Conn.

GENERAL  **ELECTRIC** 
WIRING SYSTEM

MERCHANDISE DEPARTMENT, GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT

Contracting News

Information of Interest to Electrical Contractors consisting of items of news, short articles, practical ideas, etc. Our readers are invited to contribute to this department.

Australia to Adopt Red Seal

At the Electrical Exhibition held on March 26 at Sidney, Australia, plans were formulated by the Electrical & Radio Development Association for the promotion of the Red Seal Plan of wiring.

* * *

Sixty Per Cent Now in Chapters

During April five new electragist chapters received charters, substantially broadening the geographic representation of contractors now organized into active working units of the A.E.I. Louisville, Ky., Austin and San Antonio, Tex., Fond du Lac, Wisc., and Cincinnati, O., are the latest cities to appear in the chapter directory.

Officers have been chosen as follows:

Fond du Lac Chapter: president, A. A. Kaufman; secretary, C. L. Krueger; San Antonio Chapter, secretary, F. H. Schroeder; Austin Chapter: secretary, A. W. Schmidt; Cincinnati Chapter: president, C. S. Zink; secretary, T. J. Donnelly.

Sixty per cent of the entire A.E.I. membership is now organized locally into chapters. The chapters are undertaking definite activities for improvement of conditions such as credit control programs, supervised accounting, quantity survey bureaus, estimating classes, legislation, co-operative advertising and local trade policy studies.

The formation of a number of chapters in a single state provides substantial material for a representative state association of Electragist Chapters. Such associations are already operating in several states. Their activities are growing in importance concerning such matters as state legislation and industry trade practices affecting members alike in all districts. Definite steps are now

being taken for organizing state associations in Texas, Alabama, Wisconsin and Minnesota.

* * *

Des Moines Plans Market Development

The Master Electricians Association of Des Moines, Ia., recently held an all industry meeting with a view to organizing for a local market development program. Laurence W. Davis, general manager of the Association of Electragists, and R. B. Kellogg, of the Tri-Cities Electrical League, were the speakers. As a result of the meeting the temporary chairman was authorized to appoint one member from each branch of the industry to study the Des Moines situation and report the information back to a general meeting.



CELEBRATES TWENTY-FIVE YEARS IN ELECTRICAL BUSINESS:—Robert H. Bauchspies, electragist of Lehigh Valley, Pa., just celebrated his twenty-five years in business in that city. On the same day he observed his birthday anniversary and entertained the Lehigh Valley Electrical Association. In the early days before he went into business he was a lineman and electrician for the Lehigh Valley Railroad. He has recently opened a branch store at Palmerton.

Re-motorization Program Gaining Support

Louis Kalischer, chairman of the A. E. I. Motor Section, reports rapid progress of plans for making the re-motorization of industries program effective. Application of the modernization principles are already taking definite shape in New York City, Los Angeles and elsewhere. Inquiries being received indicate a widespread interest of Electragist Chapters awaiting only a release of the organization details before proceeding upon their local re-motorization campaigns.

Recently there have been distributed to A. E. I. members copies of a special Motor Section Bulletin containing articles reprinted from "Electrical West", which present a large number of concrete suggestions for motor and industrial specialists who will take advantage of the selling opportunities growing out of this nation-wide modernization movement. The A. E. I. Motor Section invites inquiries of all interested motor specialists.

* * *

Texas Electragists to Meet at Dallas

May 12 and 13 have been selected for a State meeting of Electragists in Texas to form a Texas Association of Electragist Chapters, according to word received from officers of the Fort Worth Chapter, sponsoring the organization program.

Four new chapters have been chartered in Texas since February, with arrangements nearing completion in a number of other key cities, which will permit of practically every important center being represented in the state organization.

President L. E. Mayer, Southern Division Committeeman J. A. Fowler and General Manager L. W. Davis

THEY KEEP A-RUNNING



Century 12-in. 3-speed Portable Oscillating Fan A. C. and D. C

CORRECT AIR MOVEMENT

The Century Fan Line Includes:

Portable...9-inch and 10-inch stationary, 1-speed, Induction-type A. C.
 Portable...9-inch oscillating, 1-speed, Induction-type A. C.
 Portable...9-inch oscillating, 3-speed, Series-wound D. C.
 Portable...10-inch oscillating, 2-speed, Induction-type A. C., and Series-wound D. C.
 Portable...12-inch and 16-inch oscillating, 3-speed, Induction-type A. C., and Series-wound D. C.
 Ceiling...36-inch sweep, 4-blade, 3-speed, Induction-type A. C.
 Ceiling...60-inch sweep, 4-blade, 3-speed, Induction-type A. C., and Series-wound D. C.
 Ventilator...12-inch, Induction-type, A. C., with or without 3-speed switch in wall control box.
 Ventilator...16-inch, 3-speed, Induction-type A. C., and Series-wound D. C.

A profitable selling feature of Century Oscillating Fans is their ability to provide continuous comfort through correct control of the air movement . . . They move an unusually large volume of air over wide areas—their specially designed blades, combined with exceptionally slow oscillation, make the air movement particularly effective . . . The multi-speed fans, with switch located in the stand, permit the air velocity to be easily regulated.

Add to this the demonstrated "Keep a-Running" ability of Century Fans, plus their convenience of control, and their widely growing popularity is quickly understood.

Century Fans Build Business

CENTURY ELECTRIC COMPANY
 1806 PINE ST. • ST. LOUIS, MO.

40 U. S. and Canadian Stock Points and More Than 50 Outside Thereof

SINGLE PHASE,
 THREE PHASE,
 AND DIRECT
 CURRENT MOTORS

Century
FANS

MOTOR GENERATOR SETS, ROTARY
 CONVERTORS, FANS
 AND VENTILATORS

FOR MORE THAN 26 YEARS AT ST. LOUIS

will attend this Texas convention. Following this meeting President Mayer and Mr. Davis will visit Tulsa, Okla., on May 14; Kansas City, Mo., on May 15, and Omaha, Neb., on May 16.

General Manager Davis will then go on to Waterloo, Ia., to attend the Iowa State Electragists convention there on May 18 to 20.

* * *

Denver Contractors' Annual Meeting in May

The annual meeting of the Denver Electrical Contractors' Association, Denver, Colo., will be held at association headquarters on the afternoon of May 14. The election of officers will be the principal business at this meeting.

At the dinner meeting of this association held in March, many new members were added to the Denver chapter of Electragists. These newly elected members were all members of the Associated Electrical Contractors, Inc. Their addition to the membership put into effect the consolidation of the two groups under the name of Denver Electrical Contractors' Association.

This idea was well received at the dinner meeting indicating a prevail-



APPOINTED MANAGING EDITOR:

Victor A. Hanson, for the past year eastern editor of Electrical Contracting, Jobber's Salesman and Mill Supplies, has been made managing editor of Electrical Contracting. Prior to his association with these publications, he was assistant editor of Electric Railway Journal for one year and for two years assistant editor of Electrical Merchandising. Previous to his publishing experience, he was an electrical contractor on the Pacific Coast.

ing desire among the Denver contractors to work together for the common good of all.

Chicago Lighting Institute Opens

The Chicago Lighting Institute was formerly opened the evening of April 11. This Institute which occupies the entire thirty-sixth and part of the thirty-seventh floors of the new Civic Opera Building is a laboratory in which all known forms of modern electric illumination can be demonstrated under actual working conditions. Its services to persons interested in illumination will be free.

For the demonstration of proper home lighting, a complete six-room apartment has been installed, fully equipped and furnished so that the possibilities of modern illumination and electric appliance use can be shown.

One of the leading features of the Institute is a two-story auditorium seating 225 persons. Inside, four special installations make possible the demonstration of direct, semi-direct and indirect illumination and special flood-lighting. At the back of the stage is especially constructed scenery which can be arranged to give the effect of a model city, with a typical skyscraper as its central figure. On this building all types of modern flood-lighting can be shown.



WASHINGTON LEAGUE HOLDS RECORD BANQUET:—Breaking all records for attendance, 377 members of the Electric League of Washington and members of the electrical industry in Washington, Baltimore, Philadelphia and Wilmington, assembled at the Raleigh Hotel on March 4, for the seventh annual banquet. Speakers were dispensed with and the Washington electrical men and their guests enjoyed a full evening of fun and frolic. Seated at the speakers' table are M. C. Turpin, president of the league; H. P. Foley, vice-president and chairman of the banquet committee, F. T. Shull, treasurer, and N. H. Barnes, secretary. The entire inspection bureau of the District of Columbia Electrical Department were guests of the league for the occasion.

For the Safe Lighting of Hazardous Locations♦♦

Note These Features:

- [1] Seamless One-Piece Construction

- [2] Finished with Acid Resisting Porcelain Enamel

- [3] Tightly Sealed Against Entrance of Vapor

- [4] Closed Bead

- [5] Safety with High Lighting Efficiency

- [6] Reflector Shapes Meet Specific Lighting Requirements

- [7] X-Type Fitting, for Easy Installation

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BENJAMIN "1500 Series" Gas and Vapor Proof Fixtures -

Listed as "Vapor Proof" by the Underwriters' Laboratories, and especially designed and constructed for installations where the manufacturing process or materials handled produces inflammable or explosive gases, vapors or particles suspended in or mixed with the atmosphere.

These fixtures combine safety with good lighting, the several reflector shapes adapting them to the specific lighting requirements of the industries in which they are essential.

Send for descriptive, illustrated bulletin on the lighting of "Hazardous Locations."

BENJAMIN ELECTRIC MFG. CO.,

General Offices and Factory:

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247 W. 17th Street

Chicago
111 N. Canal Street

San Francisco
448 Bryant Street

Couch

TELEPHONES

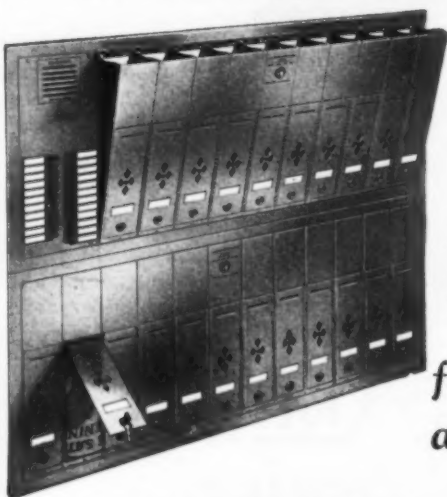
ESTABLISHED 1894

TELEPHONES

and

MAIL BOXES

for every size
and class of



APARTMENT HOUSE

The cut above illustrates a combination mail box and loud speaking vestibule set for a 22 suite apartment house.

Top row of Couch "Tilting" Mail Boxes is tilted forward for deposit of mail by postman and one tenant's door in bottom row is open for withdrawal of mail.

WRITE TODAY FOR BULLETIN NO. 89 AND PRICE LIST

S. H. COUCH COMPANY, Inc.

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BOSTON: 170 Purchase St. DETROIT: 1444 Park Place CLEVELAND: 14239 Superior Rd. DENVER: 1715 California St. NEW YORK: 487 Broadway (Canal 0084) MONTREAL: Franke, Levasseur & Co., Ltd.	PHILADELPHIA: 1725 Sansom St. DALLAS: 2205 Leonard St. ATLANTA: Bona Allen Bldg. TAMPA: 114 W. Alfred St. SAN FRANCISCO, LOS ANGELES, PORTLAND and SEATTLE: Sierra Equipment Corp. TORONTO: Canadian Telephones & Supplies Co., Ltd.	CHICAGO: 809 W. Jackson Blvd. ST. LOUIS: 917A Pine St. ASHEVILLE: P. O. Box 1892
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MANUFACTURERS OF DROP AND LAMP TYPE ANNUNCIATORS,
PRIVATE TELEPHONE SYSTEMS, AND PUSH BUTTONS



NEW PRESIDENT OF EL PASO LEAGUE:—L. J. Reynolds, owner and manager of the Reynolds Electric Company, electrical contractors of El Paso, Tex., recently was elected president of the Electrical League of that city. In 1923, Mr. Reynolds established the Clark-Reynolds Company to manufacture wrought iron products, and the following year he bought a full interest in that company and organized the Reynolds Electric Company, which now is an organization of thirty-five people doing about \$200,000 worth of business a year. The company does a general electrical contracting business and recently established a branch office in Tucson, Ariz. At present the firm is wiring a new theater and several office buildings in El Paso, in addition to large buildings in Tucson, Ariz., Van Horn, Texas, and other nearby cities.

The second two-story demonstration room, the industrial lighting room, adjoins the theatre. This is a workshop where the visitor interested in industrial lighting problems can actually work at a bench or lathe, under various combinations of lighting, to determine which best promotes efficiency in his establishment. On the 20-ft. ceiling are industrial luminaires for a multitude of factory operations, adjustable as to height, degree of eye protection and diffusion.

An avenue running half-way through the institute is devoted to show windows, as found in stores. Here are special lighting effects so that any desired combination for different classes of merchandise may be obtained. Inside the stores are various general lighting plans, and the most modern effects for wall case and show-case lighting indoors, with color effects when wanted.

In the outdoor lighting fixture room are shown floodlighting and

The New Rubber Handle Portable Lamp Guard by MCGILL

The new cage has ten wires—two more than the average portable. Projections prevent the guard from rolling on a smooth surface and by forming grooves for the wire rings give greater strength to the welds. Cage is double plated—last plating being copper.



Here is the McGill Rubber Handle Portable Lamp Guard—a worthy addition to the family of 24 famous McGill portables. The black rubber handle is the best grade rubber. It is easy to grip—will not easily slip out of the hand. The cage has many new features and takes a 100 watt Type C Lamp. Catalog number 7000. With reflector, 7000-R.

Strain Relief Disk

Rubber handle is cut out to provide a solid rubber ledge which supports a fibre disk. Wires are run up through holes in the disk and a knot tied. This eliminates all strain upon the socket connection.

Flared and Rounded Handle

The rubber handle is flared and rounded at the end. This feature prevents sharp bends in the cord, protecting it against wear, kinking and breakage.



Easy to Wire

With the McGill strain relief disk and weatherproof socket there are no pigtailed—splicing, soldering and taping are eliminated. The cord is simply shoved up through the handle and the tinned wires screwed into place, and then pulled back into the handle, seating the socket as well as the strain relief disk as shown in the top view.



Send for folder telling the complete story about this popular McGill series of Rubber Handle Guards. No. 7000 Rubber Handle Guard is shown at the right. No. 7000R Guard the same as above with reflector added. No. 7000S Guard the same as the one at right with Leveller switch in handle. No. 7000SR which is a combination of the first three guards, has reflector, rubber handle, and Leveller Switch.



MCGILL
MANUFACTURING CO.
Electrical Specialties of Quality

ESTABLISHED 1904
VALPARAISO - INDIANA





YOU are yourself but your shadow is your business potentials if you only grasp your opportunity.

The competent electragerist that is wide awake to the vast market possibilities of sound system installations can grow big by selling and installing complete and perfect audio reproduction systems. Powerizer Systems are scientifically developed to meet all different acoustical needs.

And we're the ones to help you. Because we're one of the oldest and most experienced organizations of audio engineering equipment manufacturers in the world. We know our business and we know its possibilities.

Write now for details and your copy of "Amplified Opportunities."

RADIO RECEPTOR Co., Inc.

108B Seventh Avenue, New York City

*Licensed by Radio Corporation of America
and Associated Companies*

List of Markets

*Hotels
Theatres
Schools
Stadiums
Steam Ships*

*Fair Grounds
Skating Rinks
Hospitals
Civic Centers
Restaurants*

*Dance Halls
Amusement Parks
Apartment Houses
Railway Terminals
Excursion Boats*

POWERIZER
SOUND SYSTEMS

E.C.-5-30

electric advertising, as well as a display of street lighting of various types and intensities.

Farm lighting and farm appliances occupy another room, and adjoining that is a complete demonstration of aviation lighting, showing beacons, ground lights, flood lights and a complete panorama of a landing field properly illuminated. School room and office lighting also have separate exhibits, and there are numerous special exhibits.

The officers of the Chicago Lighting Institute are: E. W. Lloyd, president; John G. Learned, vice president, and O. R. Hogue, secretary-treasurer. Ralph Raymond is managing director and E. D. Tillson is technical director.

* * *

Lackawanna-Wyoming Chapter Expands

At the monthly meeting of the Lackawanna-Wyoming Valley Chapter of Electragerists recently held at Wilkes-Barre, Pa., the constitution and by-laws were changed, and an additional membership classification added to permit the addition of members from territory somewhat out-



SPECIALIST BUILDS BUSINESS WITH ENGINEERING SALES STAFF:—R. H. Bouligney of Charlotte, N. C., who specializes in industrial plants, railroad signal work and public utility wiring has worked on the principle of developing a sales staff of engineers, thereby offering a service which eliminates competition. He is now constructing a new building to use as a combined warehouse and office.

GREATER SIMPLICITY...FEWER PARTS...
Quicker, Easier Renewals are Features of the New



Caps are one piece, insuring positive contact with the clips.



The knife-blade type Union Renewable Fuse also has an exclusive system of venting, few parts, substantial construction—and a link notched at both ends to permit quick, easy renewals. These features and the rugged grey horn fibre casing are a guarantee of longer fuse life—a new fuse for the price of a link.



UNION

Ferrule Type Renewable

FUSES

USERS who have seen the new ferrule type Union Renewable Fuse declare it the simplest, most practical, easiest fuse to renew.

Besides the link there are only three parts—two caps and the casing. And the caps have no loose washers to drop or lose. To renew, simply unscrew the caps—pull out the link, insert a new one, screw on the caps—and the fuse is ready for service.

It is designed to withstand blow out after blowout—reducing yearly fuse costs. Venting which relieves the pressure caused by the blowing of the link, and makes long life possible, is secured by an exclusive method—through the end caps, not the threads.

The link is held diagonally in the heavy horn fibre casing—keeping it from touching and charring the fibre, or interfering with the accuracy of the rating. The link is supplied bent at only one end. The straight end is inserted in slots and bent over, insuring correct fit automatically. Slots are large for easy cleaning and inspection and are so shaped that the link can not twist.

Jot down a sample order for use on a few of your most troublesome circuits. Actual use will prove these superiorities. We will be glad to tell you which wholesalers handle Union Renewable Fuses in your territory.

JEFFERSON

ELECTRIC COMPANY

1503 South Laflin Street, Chicago, Ill.



Fretz-Moon



Saving Time is Saving Money—

And you can save time on the job when you use Fretz-Moon Conduit. Threads, for instance, are so sharp and clean that the work goes in without expensive delays. The inside, too, is so smooth that fishing is speeded up, profitably.

Specify Fretz-Moon Conduit on your next order, black or galvanized, and make your costs come closer to your estimates.

Fretz-Moon Tube Company, Inc.
Butler, Pa.

RIGID CONDUIT



HIS MEN STAY WITH HIM:—S. J. Stewart (left), New Orleans electragist, has been in business so long that it is not necessary to repeat his record. With him are Albert Weinnig, construction foreman, and P. J. Fallon, shop foreman. Both of them have been with Stewart for over 17 years. This company is continuing to build up a splendid motor repair specialty business.

side the present limitations. It is intended the chapter shall represent electrical activities over the north-eastern Pennsylvania sector.

Laurence W. Davis, general manager of the Association of Electragists, was the speaker of the evening. He referred to the growing appreciation of the need of a closer relationship among the four major branches of the industry and developments are now under way along this line.

In connection with the activities of trade organizations, Mr. Davis spoke of the Federal Trade Commission and the part it was able to play in assisting trade organizations in making effective the rules or codes of business practice under which they might desire to operate. The effect of this among some hundred such organizations now cooperating with the commission has been wholesome and satisfactory.

Mr. Davis also stated that the best hope for satisfactory conditions and a fair return on investment was in earnest, fair and full cooperation.

* * *

Apprentice School Interests Portland Chapter

The members of the Portland Association of Electragists are taking a keen interest in the work of the apprentice school for building trades, including the electrical trade, which is being conducted by the local school district and sponsored by the Oregon Building Congress. The Electragists conducted a booth at the Better Homes and Industrial Exhibit

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Porcelain Sockets — which stand the test . . .

Two Complete Lines

The New P&S Two Screw Interchangeable Porcelain Socket Line, as shown, makes it possible for you to supply your customers with materials which are interchangeable with other standard makes and yet made of P&S Porcelain. The kind they prefer.

New design, embodying features contained in no other lines.

Quality throughout.

These new devices are, of course, in addition to the popular P&S "Labor Saving" One Screw Type, and place you in position to offer to your trade the most complete porcelain socket line on the market today.

Write for complete information.



P&S

PASS & SEYMOUR, Inc.

Division C

SOLVAY STATION, SYRACUSE, N. Y.

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.....Your
Customers
will recognize
the value, quality
and style in these
NEW P&S ALABAX
units

Their modern designs are in keeping with the present day demands for new style lighting units—more style and dash and they harmonize perfectly with the most refined surroundings. Note the new triangular bracket, particularly suitable for "over the mirror" installations, such as over the medicine cabinet in bathrooms.

ALABAX Porcelain Lighting Units are made of pure P&S porcelain—the kind your customers prefer. Their bright and lustrous finish, either in white or colors, is ever-lasting. It will not wear off or fade, and a few brisk rubs with a damp cloth is all that is necessary to keep them spotless and ever new.

Available in colors when desired.

Designed for quick and easy installation, and priced to sell at a profit for you.

Further information will be gladly sent upon request.

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held for one week commencing April 28, at which each building trade apprentice class had one day to put on a "line" exhibition to demonstrate the instruction they received at the school.

There are twenty-five electrical apprentices enrolled at the present time. C. W. Hays, estimator for NePage, McKenny Co., is the electrical instructor.

* * *

Bare Neutral Banned in Evansville

On April 4 a notice was sent to all electrical contractors in Evansville, Ind., by the new electrical inspector, Mr. Mac Howe, stating that no more bare neutral jobs would be approved unless the permit had previously been issued.

In reply to a request by ELECTRICAL CONTRACTING for the reasons for banning bare neutral in Evansville, Arthur G. Schlamp, commissioner of the Department of Buildings, wrote: "We do not care to assume the responsibility in permitting this system to be used, when same has not been incorporated in the National Electrical Code. In our opinion, there are too many doubts as to the advisability of using the system and until such time that the system has been thoroughly tried and these doubts removed, we do not care to sanction its use without other authority. Perhaps you are aware that quite a few installations, both large and small, have been made in the city of Evansville, but same have never been permitted by ordinance and were only authorized by the former city electrical inspector."

* * *

Industrial Specialist Courses for Contractors

With the object of helping its contractor members who are interested directly in the sale and installation of electrical industrial equipment, the Electrical League of Milwaukee, Wis., is offering a series of lectures on this subject.

This education program is planned so that those contractors interested in industrial work may be better qualified to recommend to their clients such other improvements in the plants as new motors or proper

(Continued on page 103)

The
Wurdack
Equipped
STERRICK
BUILDING
Memphis, Tenn.

Architect: WYATT C. HEDRICK, INC., Ft. Worth, Tex. Electrical Contractor: EUGENE ASHE ELECTRIC CO., Fort Worth, Texas.



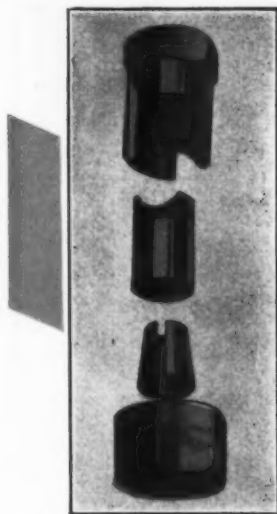
This New High Point on the Memphis Skyline
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WURDACK ACHIEVEMENT

Constantly seeking to improve our product; constantly trying to build more efficient, more dependable, better engineered switchboards and panelboards, Wurdack developments keep pace with the growing demands of modern construction. We count it an honor that the architect and builder of the monumental Sterrick Building in Memphis selected Wurdack equipment for this outstanding structure.

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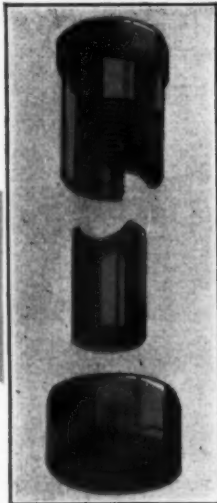
4444 CLAYTON AVE., ST. LOUIS, MO.

See Sweet's catalogue for nearest branch office.

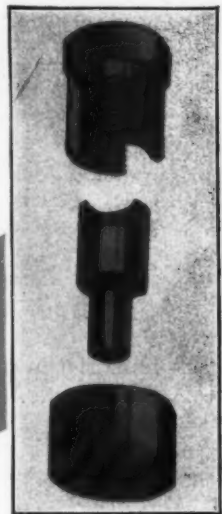


Solderless Type
(FORM 1)

**Positive - Permanent
Easiest to Install**



Solder Type
(FORM 2)



Shrink Fit
(FORM 3)

A Better Connector for EVERY Need—PENN-UNION

Regardless of your connector requirements, PENN-UNION has a Connector that will do a better job.

Three types—Solderless, Solder and Shrink Fit. PENN-UNION Solderless holds tight permanently—shorts will not burn or injure. PENN-UNION Solder and Shrink Fit Types are also unexcelled.

Connectors for the smallest size conductor up to 500,000 CM cable are made from a special hard drawn high copper

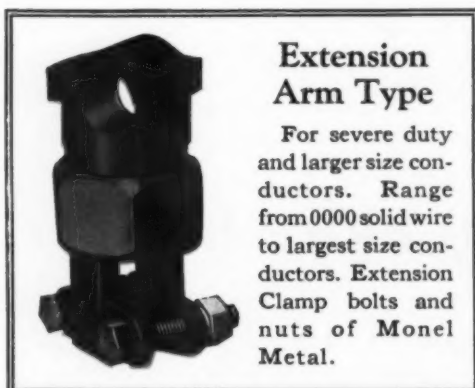


Easiest to Install—PATENTED

alloy which is non-corrosive—guaranteed against selective corrosion or weather checking.

Maximum current carrying capacity—the actual capacity of every PENN-UNION Connector is far above rating—hence surges, overcharges, shorts, etc., leave them undamaged.

—For descriptive bulletins, *mail back the Coupon*, or send a trial order. Your satisfaction is guaranteed.



**Extension
Arm Type**

For severe duty and larger size conductors. Range from 0000 solid wire to largest size conductors. Extension Clamp bolts and nuts of Monel Metal.

PENN-UNION ELECTRIC CORPORATION
ERIE, PENNSYLVANIA

PENN-UNION CONNECTORS

PENN-UNION ELECTRIC CORPORATION, Erie, Pa.
Gentlemen:

Send descriptive Bulletins of PENN-UNION CONNECTORS.

☐ SOLDERLESS TYPE ☐ SOLDER TYPE ☐ SHRINK FIT

Name _____

Address _____ City _____

Suggested RESALE PRICES *for* Wiring Supplies

The prices listed on the following pages are merely suggested resale prices for the commonly used standard supplies and equipment employed in electrical construction work. They are based on average current trade costs throughout the country, very largely obtained from jobbers' price sheets, and are also based on average overhead charges.

* * *

Obviously, prices can be suggested only for the widely used products that are nationally distributed, and under no circumstances is this section intended to function as a directory of products or manufacturers.

* * *

The publishers wish to again emphasize that these are merely *suggested* resale prices and while every effort is made to make them universally applicable and accurate we cannot guarantee them or assume any responsibility for errors.

* * *

The prices appearing in this section will be completely revised each month as trade prices may change.

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Index

To Suggested Resale Prices

A

	Page
ACORNS—for Cords and Chains.....	PL-4 & 19
ADAPTORS and Reducers for Sockets.....	PL-4 & 19
ADAPTI Fittings and Boxes.....	PL-14
ADJUSTERS—for Cords.....	PL-4
ANCHORS or Expansion Shields.....	PL-10
ANNUNCIATORS—Bell.....	PL-4
ANNUNCIATOR Wire.....	PL-28
APPLETON Entrance Fittings.....	PL-13
ARMORED CABLE—BX and Similar.....	PL-9
" " Fittings.....	PL-14
ASBESTOS Millboard.....	PL-4
" Cord for Appliances.....	PL-8
" Range Wire.....	PL-29
ATTACHMENT Plugs and Caps.....	PL-16
ATTACHMENTS—for Pull Sockets.....	PL-4

B

BABY KNIFE SWITCHES.....	PL-21
BAR Hangers for Boxes.....	PL-5
BASES—for Sockets.....	PL-19
BAYONET Sockets.....	PL-19
BELLS AND BUZZERS.....	PL-6
BELL Annunciators.....	PL-4
" Cords.....	PL-8
" Transformers.....	PL-28
" Wire.....	PL-29
BENDS and Elbows for Rigid Conduit.....	PL-9 & 11
BEND HICKS and Elbow Fittings.....	PL-13
BLOCKS—Wood for Fixtures.....	PL-8
" Enclosed Fuse.....	PL-9
BOLTS—Carriage, Stove and Toggle.....	PL-8
" Expansion and Anchor.....	PL-10
BOX—Connectors or BX Fittings.....	PL-14
BOXES—Adapti Boxes.....	PL-13
" Cable and Loom.....	PL-4-5 & 6
" Concrete.....	PL-5
" Conduit.....	PL-4-5 & 6
" Cutout or Service.....	PL-4
" Floor.....	PL-6
" Handy or Utility.....	PL-5 & 8
" Laundry.....	PL-4
" Mail.....	PL-15
" Outlet.....	PL-5
" Switch.....	PL-4
" Entrance Switches—See Switches	
BRACKETS—for Insulators.....	PL-7 & 8
BREWERY CORD.....	PL-8
BUSHINGS for Rigid Conduit.....	PL-5 & 9
" Porcelain.....	PL-5
" for Sockets.....	PL-6 & 19
BUTTONS—Push for Bell Work.....	PL-6 & 7
" Ceiling P. & S. Porcelain.....	PL-8
BUZZERS and BELLS.....	PL-6
BX-BXL Armored Cables.....	PL-9

C

CABLES—Armored and Lead Covered.....	PL-9
" Deck.....	PL-8
" Non-Metallic Romex, Etc.....	PL-9
" Packing House.....	PL-8
" Park—Non-Metallic.....	PL-29
" Park—Steel Taped.....	PL-29
" Rubber and Lead Covered.....	PL-28 & 29
" Stage.....	PL-8
CANDLE Sockets.....	PL-19
CANDELABRA Sockets.....	PL-19
CANOPY Switches.....	PL-20 & 21
CANVASITE Cord.....	PL-8

C—Continued

	Page
CAPS—for Attachment Plugs.....	PL-16
" Entrance Fittings.....	PL-13
CARRIAGE Bolts.....	PL-8
CEILING Switches.....	PL-21
" Buttons.....	PL-8
CHASE NIPPLES and Couplings.....	PL-16
CHAIN for Pull Sockets.....	PL-19
CIRCUIT Boxes and Residence Panels.....	PL-17
CLAMPS—Grounding.....	PL-9
" Hangers.....	PL-15
" Table for Bell Work.....	PL-7
" or Straps for Pipe.....	PL-9 & 27
CLEAT Rosettes.....	PL-19
CLEATS—Porcelain Insulator.....	PL-15
CLIPS or Straps for Pipe.....	PL-9 & 27
" for Loom.....	PL-9 & 15
COLORING Fluid or Liquid.....	PL-9
CONCRETE Boxes.....	PL-5
CONDUIT—Rigid or Flexible Metal.....	PL-9
" Bushings and Locknuts.....	PL-5 & 9
" Couplings.....	PL-9
" Elbows and Bends.....	PL-9 & 11
" Fittings All Types.....	PL-11 to 14
" Flexible Armored.....	PL-9
" Hangers.....	PL-15
" Locknuts and Bushings.....	PL-5 & 9
" Nipples.....	PL-16
" Reducers.....	PL-9 & 16
" Thin Wall.....	PL-9
CONDULETS—Fittings.....	PL-11 & 12
CONNECTORS—Armored for BX, Etc.....	PL-14
" Solderless.....	PL-10
" Fixture, Wire & Cord.....	PL-10
" Greenfield and BX.....	PL-14
" Cord and Motor.....	PL-10
COMPOUND—Pothead.....	PL-17
CORDS—All Types.....	PL-8
" For Pull Sockets.....	PL-19
" Extension—Made-Up.....	PL-10
CORD Adjusters.....	PL-4
" Armored Lamp.....	PL-9
" Connectors.....	PL-9 & 10
COUPLINGS—for Conduit.....	PL-9
COVERS for Outlet Boxes.....	PL-4 & 5
CROWFEET for Fixtures.....	PL-9
CURRENT TAPS.....	PL-19
CUTOUT Boxes—Steel.....	PL-6
CUTOUTS—Plug & Cartridge Enclosed.....	PL-9

D

DAMP PROOF Office Wire.....	PL-29
DECK Cable.....	PL-8
DELTABESTON Cord.....	PL-8
" Wire.....	PL-28
DIM-A-LITE Sockets.....	PL-19
DOOR Switches and Openers.....	PL-21
" Trips and Springs.....	PL-7

E

ELBOWS or Bends for Conduit.....	PL-9 & 10
ELECTROLET Entrance Fittings.....	PL-13
ENCLOSED Fuses.....	PL-10
" Cutouts.....	PL-9
ENTRANCE Fittings.....	PL-13
" Panel Switches Plug Type.....	PL-21
" Safety Switches.....	PL-21 to 27
ERICKSON Couplings for Conduit.....	PL-9
EXPANSION Shields and Bolts.....	PL-10
EXTENSION Cords made up.....	PL-10
" for Sockets.....	PL-4

F

	Page
FEDERAL Bushings and Similar.....	PL-5
FEED THRU and Pendant Switches.....	PL-21
FITTINGS—Armored Cable.....	PL-14
" Adapti.....	PL-14
" Condulets and Similar.....	PL-11 & 12
" Electrolets and Similar.....	PL-13
" Entrance All Types.....	PL-13
" Groundulets.....	PL-14
" Kondu Threadless.....	PL-12
" Spragulets and Wireless.....	PL-13
FIXTURE Blocks—Wood.....	PL-8
" Cords.....	PL-8
" Studs.....	PL-27
" Wire.....	PL-29
FLASHERS Skeedoodle Plugs.....	PL-16
FLEXIBLE Metal Conduit.....	PL-9
" Loom-Non-Metallic.....	PL-15
FLOOR Pushes and Treads.....	PL-6 & 7
" Boxes.....	PL-6
FLUSH Receptacles.....	PL-18
" Switches and Plates.....	PL-20
FRICTION Tape.....	PL-28
FUSES—All Types.....	PL-10
" Blocks—Enclosed.....	PL-9
FUSE Wire.....	PL-10
FUSENTERS and House Panelboards.....	PL-17

G

GASKETS—for Condulets.....	PL-11
G. E. Fittings—Entrance.....	PL-13
GEE VEE Fittings—Entrance.....	PL-13
GREENFIELD Flexible Conduit.....	PL-9
" Connectors for Flexible.....	PL-14
GROUNDING Clamps.....	PL-9
GROUND Rods.....	PL-19
GROUNDULETS Fittings.....	PL-14
GUARDS—Lamp.....	PL-15

H

HANDY BOXES.....	PL-5
HANGERS—Conduit and Cable.....	PL-15
" for Outlet Boxes.....	PL-5
HANDLES—for Sockets.....	PL-19
" For Snap Switches.....	PL-20
HOLDERS—Shade.....	PL-15
HOUSE RACKS and Wireholders.....	PL-8

I

INCREASERS for Conduit.....	PL-16
INSULATED Nails.....	PL-16
INSULATING Links for Chain.....	PL-15 & 19
" Paint or Varnish.....	PL-17
" Staples.....	PL-16 & 27
IRON Plugs.....	PL-17

K

KNIFE Switches—Baby.....	PL-21
KNOBS—Tubes and Cleats.....	PL-14 & 15
KONDU Threadless Fittings.....	PL-12 & 13

Electrical Contracting, May, 1930

L

	Page
LAG Screws.....	PL-27
LAMP GUARDS.....	PL-15
LAUNDRY Boxes.....	PL-4
LEAD Covered Armored Cables.....	PL-9
" Covered & Rubber Cov. Cables.....	PL-29
LEVOLIER Switches.....	PL-21
LINKS—Insulating.....	PL-15 & 19
" Renewable Fuse.....	PL-10
LIQUID for Coloring.....	PL-9
LOCKNUTS—Conduit.....	PL-8 & 15
LOOM—Non-Metallic Flexible.....	PL-15
" Clips.....	PL-9
LOCUST Pins.....	PL-7
LUGS—Soldering for Wire.....	PL-15
LUMINOUS Acorns for Cords.....	PL-4 & 19
" Buttons for Switches.....	PL-20

M

MAGNET Wire.....	PL-29
MAIL Boxes.....	PL-15
METAL Molding.....	PL-15
" Wiremold.....	PL-16
METER Service Switches.....	PL-21 to 27
MINIATURE and Candelabra Sockets.....	PL-18
MOGUL Sockets.....	PL-19
MOTOR Cord Connectors.....	PL-10
MOLDING Metal.....	PL-15 & 16
" Wiremold.....	PL-16
MULTI Bushings.....	PL-5

N

NAILS—Insulated.....	PL-16
NIPPLES for Conduit.....	PL-16
NON-METALLIC—Park Cables.....	PL-29

O

OFFICE Wire.....	PL-29
OPENERS—Door.....	PL-21
OUTLET Boxes and Covers.....	PL-4 & 5
OVALDUCT Metal Moulding.....	PL-16

P

PAINT—Insulating.....	PL-17
PANELBOARDS Small House Type.....	PL-17
PANEL Switches.....	PL-21
PARK Cable.....	PL-29
PASTE Soldering.....	PL-17 & 27
PENDANT Switches.....	PL-21
PINS—Locust.....	PL-7
PIPE—Rigid Conduit.....	PL-9
" Clamps and Straps.....	PL-9 & 27
" Nipples.....	PL-16
" Threaded.....	PL-17
PLATES for Receptacles.....	PL-18
" for Switches.....	PL-20
PLUG Cutouts.....	PL-9
PLUGS—Attachment and Appliance.....	PL-16
" Conduit.....	PL-17

P—Continued

	Page
POTHEAD Compound.....	PL-17
PORCELAIN Bushings.....	PL-5
" Cutouts.....	PL-9
" Knobs and Tubes.....	PL-15
PUSH Buttons, Treads, Springs.....	PL-7

R

RACKS and Wireholders.....	PL-7 & 8
RADIO RECEPTACLES.....	PL-18
RAWLPLUGS.....	PL-19
RECEPTACLES—Flush.....	PL-18
" Radio.....	PL-18
" Sign.....	PL-19
" Surface.....	PL-18 & 19
" for Conduit.....	PL-10 to 14
REDUCERS—Conduit.....	PL-9 & 16
" Chase.....	PL-16
" Socket.....	PL-4
RODS for Grounding.....	PL-19
ROMEX and Similar.....	PL-9
ROSETTES—Porcelain.....	PL-19
" for Conduit Fittings.....	PL-11 to 14
RUBBER TAPE.....	PL-28

S

SAFETY Switches—All Makes.....	PL-21 to 26
SALTS—Soldering.....	PL-26
SCREWS—Lag.....	PL-27
" Machine and Wood.....	PL-27
SERVICE Boxes or Cutout Boxes.....	PL-6
SHADE HOLDERS—Standard.....	PL-15
SHIELDS—Expansion.....	PL-10
SKEEDOODLE Flasher Plugs.....	PL-17
SLATE Base Cutouts.....	PL-9
SNAP Switches—Wall.....	PL-20
" Switches—Pull Cord Type.....	PL-20 & 21
SOCKETS—All Types.....	PL-19 & 20
SOCKET Adapters.....	PL-4
" Attachments.....	PL-4
" Bushings.....	PL-5 & 19
" Extensions.....	PL-4
" Handles.....	PL-19
" Twin.....	PL-19
SOLDER—All Types.....	PL-27
" Paste.....	PL-17 & 27
SOLDERING Lugs.....	PL-15
SOLDERLESS Connectors.....	PL-10
SPACERS—For Boxes.....	PL-4
SPEAKING Tubes.....	PL-15
SPRAGULETS Fittings.....	PL-13
SPRINGS—Window and Door.....	PL-6 & 7
SQUEEZE Connectors.....	PL-14
STAPLES for Bell Work.....	PL-16 & 27
STEEL Taped Park Cable.....	PL-29
STOVE Bolts.....	PL-8
STRAPS and Pipe Clamps.....	PL-9 & 27
STUDS for Fixtures.....	PL-27
SWITCH Boxes.....	PL-4
" Plates.....	PL-20
SWITCHES—Canopy.....	PL-21
" Door.....	PL-21
" Entrance and Panel.....	PL-21 to 27
" Flush-Push-Tumbler.....	PL-20
" Snap.....	PL-21
" Knife.....	PL-21
" Panel.....	PL-21

S—Continued

	Page
SWITCHES—Pendant and Feed Thru.....	PL-21
" Pull Cord.....	PL-20 & 21
" Time.....	PL-28
SWITCHES SAFETY ENTRANCE TYPE	
Bulldog.....	PL-24 & 25
Columbia.....	PL-25
Murray.....	PL-26
Noark.....	PL-24
Square D.....	PL-21 & 22
Trumbull.....	PL-22
Trumbull-Vanderpoel.....	PL-22 & 23
Wadsworth.....	PL-26
Westinghouse.....	PL-23 & 24

T

TABLE Clamps.....	PL-7
TAPE—Friction and Rubber.....	PL-28
TAPLETS—Conduit Fittings.....	PL-11
TAP—Current.....	PL-19
TELEPHONES.....	PL-28
" Wire.....	PL-29
TERMINALS and Soldering Lugs.....	PL-15
THIN Wall Conduit.....	PL-9
THREADED Pipe.....	PL-17
THREADED Conduit Fittings.....	PL-12
TIME Switches.....	PL-28
TOGGLE Bolts.....	PL-8
" Switches.....	PL-20
TRANSFORMERS—Bell and Toy.....	PL-28
TREADS—Floor.....	PL-6 & 7
TUBES—Porcelain.....	PL-15
" Specking.....	PL-15
TUMBLER Switches and Plates.....	PL-19
TWIN Sockets.....	PL-19

U

UTILITY Boxes.....	PL-5
UNILETS Conduit Fittings.....	PL-11

V

V. V. FITTINGS for Conduit.....	PL-11
VAPORPROOF Fittings.....	PL-12
VARNISH and Paint.....	PL-17

W

WEATHERCAPS Entrance Fittings.....	PL-13
WEATHERPROOF Wire.....	PL-29
" Conduit Fittings.....	PL-12
WIRE—Rubber Covered.....	PL-29
" Weatherproof.....	PL-29
" Annunciator.....	PL-29
" Asbestos Range.....	PL-29
" Connectors.....	PL-10
" Damp Proof.....	PL-29
" Deltabeston.....	PL-29
" Lead and Rubber Covered.....	PL-29
" Magnet.....	PL-29
" Telephone and Telegraph.....	PL-29
WIREHOLDERS and Brackets.....	PL-7 & 8
WIRELETS and Spragulets.....	PL-13
WIREMOLD.....	PL-16
WOOD Fixture Blocks.....	PL-8

Suggested Resale Prices for Wiring Supplies

These are merely suggested resale prices for the commonly used products that appear regularly on jobber price lists. They are figured on generally accepted principles for computing resale prices and should cover average conditions but are not guaranteed. (See note on title page.)

A-SUNDRIES

ASBESTOS

ASBESTOS
Asbestos Millboard—Per Pound—30c.

ANNUNCIATORS

House Type

Number Drops	Edwards Dixie		Edw. & Faraday		"P & W"	
	Ansonia	No. 373	White Enamel	Competition	"P & W" Automatic	
2	.....	\$ 9.85	\$13.00	.....	.....
3	\$ 9.90	11.60	14.80			
4	10.75	13.05	16.40	\$13.25	\$16.50	
6	14.30	16.40	19.40	18.80		
8	16.50	19.40	22.75	19.80	24.75	
10	19.00	22.75	26.00	23.00	29.70	
12	22.25	25.90	29.15	26.40	.....
14	24.75	.....			
16	27.25	34.00	40.00	34.65	.....
Ex. Drops	.....	2.25	3.00	.....	.....

(All other Annunciators—Sell at List less 10%)

COUCH

Electrical Reset

Style D		Style F Flush		Style F Flush	
Face Type Wood Face		Wood Face		Metal Face	
Number of Drops	Number Price	Number Price	Number Price	Number Price	Number Price
4	DA 4 \$31.50	FA 4 \$44.80	FA 4 \$49.80	FA 4 \$49.80	
6	DA 6 26.50	FA 6 49.30	FA 6 55.00	FA 6 55.00	
8	DA 8 31.50	FA 8 53.80	FA 8 59.70	FA 8 59.70	
10	DA 10 36.50	FA 10 58.25	FA 10 64.70	FA 10 64.70	
12	DA 12 43.10	FA 12 64.25	FA 12 71.30	FA 12 71.30	
14	DA 14 48.50	FA 14 73.10	FA 14 81.50	FA 14 81.50	
16	DA 16 56.50	.....	.....	.....	.....
20	DA 20 69.75	FA 20 88.15	FA 20 98.00	FA 20 98.00	

Add for each drop on any of above—\$4.15 per drop

ADAPTORS & REDUCERS

	Arrow	Benj. Bryant	G. E.	Hubbl.	Price	
Mogul to Medium.....	392	368	070	.....	\$ 50
Medium to Candelabra.....	392	392	35609	.....	25
Candelabra to Miniature.....	391	391	.....	.....	20
Medium to Intermediate.....	492	9691	2644	492	25	
Parallel Blades to Medium.....	1006	KF	682	5424	30
Plug in Full Socket.....	.....	35024	.....	35024	1.00
Benjamin Vase Adapter.....	No. 831, 832, 833	Each	.....	.....	2.00

For Clusters to go with Vase Adapter See P19

SOCKET EXTENSIONS

Benjamin No. 91 Socket Extension—Ea.....		\$.45
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ATTACHMENTS FOR PULL SOCKETS

For 8" to 14" Reflectors No. 5828-5829-5057-5058.....	\$.55
For 16" to 20" Reflectors No. 5953-5954-5059-5060.....	.65

ADJUSTERS For Cords

		Price
Universal Cord Adjuster	Standard No. 1417 3/4" Long.....	\$.10
" "	Factory No. 1418 5/8" Long.....	.20
" "	Reinforced No. 1419 5/8" Long.....	.22
Bail Type No. 1403 & 5 for Type C Cord, 3/4 hole.....		.10
No. 4634 & 5 for Reinforced Cord, 3/4 hole.....		.12

ACORNS & TASSELS

Luminous Acorns and Pendants for Pull Chain.....	\$0.30
Brass Acorns and Tassels for Pull Chain.....	.10
Brass Acorns Adjustable for Linen Cord.....	.10

BOXES, SWITCH

STANDARD SWITCH BOXES

STANDARD SWITCH BOXES			Price
	Depth		Black Galvd.
For Loom	2 3/4" or 2 1/2"	Without clamps	\$.18 \$.23
" " " " " "	2 3/4" or 2 1/2"	With " "	" .20 "
For Metallic Cable.....	2 3/4" or 2 1/2"	With " "	" .18 "
" " " " " "	1 1/2" or 1 3/4"	With " "	" .34 .38
For Rigid Conduit.....	1 1/2" or 1 3/4"	Without " "	" .23 "
" " " " " "	3 & 3 1/2"	Without " "	" .34 .38
Spacers—For Spacer only deduct from any of above prices....			.04 .05

With BRACKETS or EXTENDED EARS or LATH SUPPORTS

			Price	
	Depth		Black	Galvd.
For Loom.....	2, 2 1/4 or 2 1/2	Without clamps	\$.22	\$.26
" ".....	2, 2 1/4 " 2 1/2	With "	.24	.28
For Metallic Cable.....	2, 2 1/4 " 2 1/2	With "	.30	.35
" Rigid Conduit.....	2 to 2 1/2	Without "	.27	.32

SECTIONAL SWITCH BOXES

	Boxes		Spacers	
	Black	Galvd.	Black	Galvd.
For Loom or Rigid Conduit 1½ Deep.....	\$.25	\$.28	\$.23	\$.24
For Rigid Conduit 2½ Deep.....	.80	.85	.40	.40

SOLID GANG BOXES—GALVANIZED

	2 Gang	3 Gang	4 Gang	5 Gang	6 Gang	7 Gang	8 Gang
Price of Box...	\$.80	\$1.20	\$1.65	\$2.10	\$4.00	\$6.35	\$6.50
Price of Cover...	.40	.60	.80	1.00	2.00	3.35	3.70

TANDEM SWITCH BOXES

		Black			Galvanized		
Loom, Cable, Conduit		2 Gang	3 Gang	4 Gang	2 Gang	3 Gang	4 Gang
Tandem Boxes 1½ & 2" Deep		\$6.65	\$1.10	\$1.65	\$8.51	\$1.23	\$1.90
" 2½ & 3" Deep		.85	1.23	1.90	.95	1.37	2.18

DOOR SWITCH BOXES

For Rigid or Flexible Conduit without Clamps.....	Black	Galvd.
“ “ “ “ “ “ with Clamps.....	\$.60	\$.60
	.60	.70

LAUNDRY BOXES

Gem-Appleton or Raco, etc., with Single Receptacle.....	Black \$.85	Galvd. \$.90
Duplex	1.25	1.35

For Concrete Boxes See Page PL-5.
For Solid Gang Boxes See Page PL-5.

BOXES & COVERS, OUTLET

BOXES, ROUND, OCTAGON & SQUARE

Covers Priced Separately									
Univ. No.	Size			Depth	Knockouts			Price Each	
					Bottom	Side	Black Galv.		
24151	3 1/2"	Oct. Deep	1 1/2" KO	1 1/2"	1-1 1/2"	4-1 1/2"		\$.12	\$.14
24152	3 1/2"	" "	1 1/2" KO	1 1/2"	1-1 1/2"	4-1 1/2"			.16
24155	3 1/2"	" "	1 1/2" KO	1 1/2"	7-1 1/2"	8-1 1/2"		.14	.17
26121	3 1/2"	Round Shallow	" "	2 1/2"	2-1 1/2"			.15	.17
26125	3 1/2"	" "	" "	2 1/2"	9-1 1/2"			.13	.15
26126	3 1/2"	" "	No Ears	9-1 1/2"				.13	.15
36113	3 1/2"	" "	" "	9-1 1/2"				.14	.16
36114	3 1/2"	" "	" "	9-1 1/2"				.12	.14
36115	3 1/2"	" "	" "	7-1 1/2"				.14	.16
36116	3 1/2"	" "	" "	8-1 1/2"				.12	.14
51151	4"	Sq. Deep	1 1/2" KO	1 1/2"	5-1 1/2"			.21	.24
52151	4"	" "	1 1/2" KO	1 1/2"	5-1 1/2"	10-1 1/2"		.18	.22
54151	4"	Oct. "	1 1/2" KO	1 1/2"	5-1 1/2"	10-1 1/2"		.21	.24
54151	4"	" "	1 1/2" KO	1 1/2"	5-1 1/2"	4-1 1/2"		.16	.19
54151	4"	" "	1 1/2" KO	1 1/2"	5-1 1/2"	5-1 1/2"		.19	.22
54155	4"	" "	" "	1 1/2"	9-1 1/2"	8-1 1/2"		.23	.26
54171	4"	" "	" "	2 1/2"	5-1 1/2"	4-1 1/2"		.28	.32
56111	4"	Round Shallow	1 1/2" KO	2 1/2"	5-1 1/2"			.12	.14
56111	4"	" "	1 1/2" KO	4-1 1/2"				.14	.19
56112	4"	" "	" "	4-1 1/2"				.10	.12
56115	4"	" "	" "	9-1 1/2"				.13	.16
56116	4"	" "	" "	9-1 1/2"				.11	.13
56121	4"	" "	" "	9-1 1/2"				.16	.19
56122	4"	" "	" "	9-1 1/2"				.13	.15
56125	4"	" "	" "	9-1 1/2"				.30	.35
72151	4-11/16"	Sq. Deep	" "	1 1/2"	5-1 1/2"	8-1 1/2"		....	.55
72171	4-11/16"	" "	" "	2 1/2"	5-1 1/2"	8-1 1/2"		....	.63

Boxes & Covers

COVERS, ROUND

For 3 1/4" & 4" Octagon & Round Boxes

Universal No.	Size	Description	Price Each Black	Galvd.
24C-1	3 1/4"	Flat Closed Cover Blank 3 1/4"	\$.06	\$.08
24C-2	"	Raised 3/8" Closed Cover Blank	.06	.09
24C-3	"	Flat with 1/2" KO	.07	.09
24C-7	"	Raised with 1/2" KO	.08	.10
24C-12	"	Raised 3/8" Hole, for Cord or Bush	.08	.10
24C-28	"	Spider Flat for Surf. Mntd. Devices	.09	.11
24C-31	"	Raised 3/8" Opng. for Sign Recep.	.08	.10
24C-33	"	Flat Opng. 3/8" for Spec. Sign Recep.	.22	.24
24C-35 & 36	"	Raised Opng. 3/8" for Scrw Sign Recep.	.08	.10
54C-1	4"	Flat Closed Cover	.08	.10
54C-2	"	Raised 3/8" Closed Center	.08	.10
54C-8	"	Raised 3/8" Opening 2 3/4"	.11	.13
54C-6	"	Flat with 1/2" KO	.08	.11
54C-7	"	Raised 3/8" with 1/2" KO	.09	.12
54C-12	"	Raised with Opening for Cord	.09	.11
54C-28	"	Flat for Surface Mounted Devices	.09	.12
54C-31	"	Raised for Sign Receptacles	.09	.11
54C-35 & 36	"	Raised for Sign Receptacles	.09	.11
1172	3 1/4"	Porc. Round Cov. for 3 1/4" Box with hole	.20	
1178	4"	Porc. Round Cov. for 4" Box with hole	.30	

COVERS, SQUARE

For 4" & 4-11/16" Square Boxes

Universal No.	Size	Description	Price Each Black	Galvd.
52C-1	4" Sq.	Flat Closed	\$.09	\$.12
52C-2	"	Raised Closed Center	.12	.14
52C-3	"	with 2 3/4" Opening	.15	.17
52C-6	"	Flat with 1/2" KO	.12	.14
52C-7	"	Raised with 1/2" KO	.17	.20
52C-12	"	" Hole for Cord	.14	.16
52C-13	"	Raised 1/8" For Single Flush Devices	.12	.14
52C-14	"	" " " " " "	.13	.16
52C-15	"	" " " " " "	.18	.21
52C-16	"	" " " " " "	.21	.22
52C-17 & 18	4"	Raised 3/8" For Two Flush	.17	.20
52C-19	"	Raised 1/8" For Two Flush	.24	.27
52C-21	"	Raised 1/8" For Two Flush	.26	.28
52C-28	"	Flat For Surface Mounted	.18	.20
52C-35 & 36	4" Sq.	Raised for Sign Receptacles	.17	.20
52C-48	"	Raised with 2 3/4" Opening	.13	.15
52C-62	"	Raised 1/8" For Single Flush Devices	.12	.14
72C-1	4-11/16" Sq.	Flat Closed	.30	
72C-2	"	Raised Closed Center	.36	
72C-3	"	Raised 2 3/4" Opening	.40	
72C-12	"	Raised with Hole for Cord	.40	
72C-14	"	Raised 3/8" For Single Flush Devices	.40	
72C-18	"	Raised 1/8" For Two Flush	.53	
72C-48	"	Raised 2 3/4" Opening	.40	

4" SQUARE COVERS

For Exposed Work

Universal No.	Description	Price Each Black	Galvd.
N-8490 to 8493	4" Cover For One Push or Toggle Switch or one Single or Duplex Receptacle	\$.25	\$.30
N-8493A to 8500	4" Cover for Two Push or Toggle Switches or Two Receptacles or any combination of two devices	\$.35	\$.40

EXTENSION RINGS

For Flush Devices

Universal No.	Description	Price Each Black	Galvd.
55151-57151	3 1/4" Octagon Ring—1 1/2" Deep	\$.26	\$.28
55151-55151	4" Square or Octagon Ring—1 1/2" Deep	.30	.32
55171	4" Octagon Ring—2 1/4" Deep	.46	.53

HANDY OR UTILITY BOXES & COVERS

For Use With Rigid Conduit

Description	Universal Numbers	Appleton Numbers	G. E. Numbers	Jefferson Numbers	Price
Box 3 1/4 x 1 1/4 x 1 1/4 For Rigid Cond.	58151	4-SS	187	5800	\$0.25
Box 4 1/2 x 1 1/4 x 1 1/4 For Rigid Cond.	58361	4-CS	180	5800	.25
Box 4 1/2 x 1 1/4 x 1 1/4 For Rigid Cond.	58371	4-SSL	181	5800	.25
Box 4 1/2 x 1 1/4 x 1 1/4 For Rigid Cond.	58371	4-SSL	181	5800	.25
Box 4 1/2 x 1 1/4 x 1 1/4 For Rigid Cond.	58371	4-SSL	181	5800	.25
Cover Flat Steel Closed	58C1	2540	58R1	180A	.11
Cover Porcelain with Holes		2541-6			.15
Cover for Sgle. Receptacle	58C5	2558	58R5	180X	.20
Cover for Duplex Receptacle	58C7	2510	58R7	180W	.20
Cover for Toggle Flush Switch	58C14	2594	58R14	180T	.20
Cover for Sgle. Push Switch	58R3	2537		180S	.20
Cover for Sign Receptacles	58C33	2537		180U	.20
Cover for Snap Switches	58C28	2556			.20
Cover with 1/2" K. O.	58C6	2501		180E	.18
Cover with 1/2" or 3/4" Nipple		2553			.30
Cover with Bushing for Cord	58C11			180B	.18

CONCRETE BOXES WITH COVERS

Depth	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"
Box & Back Plate with 1/2" Stud	.40	.30	.35	.40	.45	.50	.55	.65
Box & Back Plate less 1/2" Stud	.25	.30	.35	.40	.45	.50	.55	.60
Extra Plate 4 1/2" Round without Fixture Stud								\$0.10
Extra Plate 4 1/2" Round with 1/2" Fixture Stud								.15
Extra Plate 4 1/2" Round with 3/4" Fixture Stud								.20

SOLID GANG BOXES

Covers Extra

Galvd. Only	2	3	4	5	6	7	8
Gang							
Box Price	\$.85	\$1.25	\$1.65	\$2.20	\$4.25	\$5.40	\$8.85
Cover	.40	.60	.85	1.05	2.00	3.55	4.15

Electrical Contracting, May, 1930

BOXES, OUTLET

ARMORED CABLE BOXES

Box Only

Size	Stud	Clamps	Bush Plates	Price
3 1/4 x 3/4 Round	Yes	Two	No	\$0.25
3 1/4 x 1 1/2 Round	Yes	Two	No	.30
3 1/4 x 1 1/2 Octagon	No	Two	Two	.25
3 1/4 x 1 1/2 Octagon	Yes	Two	Two	.30
3 1/2 x 3/4 Round	No	Two	No	.20
3 1/2 x 3/4 Round	Yes	Two	Two	.25
3 1/2 x 1 1/2 Octagon	No	Two	Two	.25
3 1/2 x 1 1/2 Octagon	Yes	Two	Two	.30
4 x 1 1/2 Octagon	No	Two	Two	.30
4 x 1 1/2 Octagon	Yes	Two	Two	.35
G. E. Cable Boxes for Straight Electric or Combination No. 5200-01				.15
Hope Cable Boxes for Straight Electric or Combination No. 12 & 14				.15
Thomas & Betts No. 565-66-67-68 Standard Cable Boxes				.25
Thomas & Betts No. 553-554 Dead Ground Cable Boxes				.35
Thomas & Betts No. 160-161 Flush Wall Type Cable Boxes				.55

BAR HANGERS FOR OUTLET BOXES

Boxes Extra

(With 3/8" Fixture Stud)	Apple- G. E.	Jeffer- Nat. Met. Steel	Price
(With 3/8" Stud add 5c ea.)	ton #	son #	Prod. # City # Margin
Straight Bar 18" Long	SBH 6600	10	2262 6000A \$0.25
Straight Bar 24" Long	SBHL 6601	10A	6000A .35
Shallow Offset Bar 19 1/2" Long	BHS 6602	11	6001 .30
Shallow Offset Bar 24" Long	BHSL		6001A .35
Deep Offset Bar 19 1/2" Long	BHD 6603	12	6002 .30
Deep Offset Bar 24" Long	BHDL		6002A .35
Straight Old Work Bar	CHOW 6604	13	2267 6003 .20
Box Cleat Bar	CBH 6605	14	2268 6005 .15
Straight Saddle Bar	XBH		2260 .20

BAR SETS

Complete with Boxes

Size	Ears	Clamps	Bush	Appleton	Jeffer- son #	Steel City	Galvd.	Price
3 1/2 x 3 1/2 Round	No	None	None	BH-498L	260B	36116B		\$0.35
3 1/2 x 3 1/2 Round	No	Two	None	BH-498LC	260CB	36116BC		.40
3 1/2 x 3 1/2 Round	Yes	None	None	BH-521L	261B	36115B		.40
3 1/2 x 3 1/2 Round	Yes	Two	None	BH-521LC	261CB	36115BC		.45
3 1/4 x 1 1/2 Oct.	Yes	Two	None		1288B	24151CB		.45
3 1/4 x 1 1/2 Oct.	Yes	Two	Two	BHS-513LC	1288XB	24151XSB		.45
3 1/2 x 3 1/2 Round	No	Two	None		1286E			.35
3 1/2 x 3 1/2 Round	No	Two	Two		1287XB			.40
4 x 1 1/2 Oct.	Yes	Two	None		1291B			.45
4 x 1 1/2 Oct.	Yes	Two	Two	BHS-551L	1291XB	54151XSB		.50
4 x 1/2 Round	No	None	None	BH-4C	109B	56112B		.35
4 x 1/2 Round	Yes	None	None	BH-4CL	109LB	56111B		.45

BUSHINGS & LOCKNUTS

BUSHINGS & LOCKNUTS

For Rigid Conduit

Locknuts—Each	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"
Bushings—Each	\$.01	\$.01 1/4	\$.02 1/4	\$.02 1/2	\$.03	\$.05
Locknuts—Each	\$.02	\$.02 1/4	\$.03	\$.03 1/2	\$.04	\$.08
Bushings—Each	\$.08	\$.11	\$.19	\$.32	\$.40	\$.58
Bushings—Each	.10	.20	.30	.40	.88	1.40

PORCELAIN CLAMP BUSHINGS

"Federal" or Equivalent

No.	K. O.	Inside Size	Outside Size	Wire Size	Bushing Each	Extra Ring Each
A-1	3/4"	1/2"	1/2"	No. 10	\$.08	\$.04
A-1 1/2	1 1/4"	1 1/4"	1 1/4"	No. 10	.10	.04
A-2	1 1/2"	1 1/2"	1 1/2"	No. 8	.10	.04
A-3	1 3/4"	1 3/4"	1 3/4"	No. 3	.12	.05
A-4	1 3/4"	1 3/4"	1 3/4"	No. 00	.16	.07
A-5	1 3/4"	1 3/4"	1 3/4"	450 CM	.21	.10
A-6	2"	1 3/4"	2 1/4"	1 Mill. CM	.46	.12
B-1	1 1/2"	1 1/2"	1 1/2"	No. 10	.21	.04
K-1	1 1/2"	1 1/2"	1 1/2"	No. 10	.32	.04
K-2	1 1/2"	1 1/2"	1 1/2"	No. 8	.37	.05

"MULTI" PORCELAIN CLAMP BUSHINGS

No.	Inside Size	Outside Size	For Wires	Price Each Complete
10	1/2"	1/2"	14 B & S	\$0.08
12	5/8"	5/8"	14 B & S	.12
15	3/4"	3/4"	14 B & S	.10
20	1"	1"	6 B & S	.10
30	1 1/4"	1 1/4"	2 B & S	.12
40	1 1/2"	1 1/2"	000	.20
50	1 3/4"	1 3/4"	350,000	.30
55	1 3/4"	1 3/4"	600,000	.38
60	1 3/4"	2 1/4"	1,000,000	.45

PORCELAIN NO CLAMP BUSHINGS

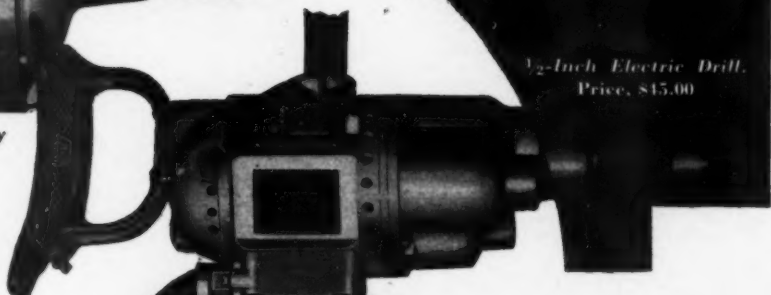
Multi- With Spring Clip, Not Threaded

Catalog No.	Multi	90A	90B	91	92A	92B
Size of Hole	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
To Fit Hole	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Price	\$.06	\$.06	\$.06	\$.07	\$.07	\$.07

PRODUCTION DRILLING WITH BLACK & DECKER PORTABLE ELECTRIC DRILLS



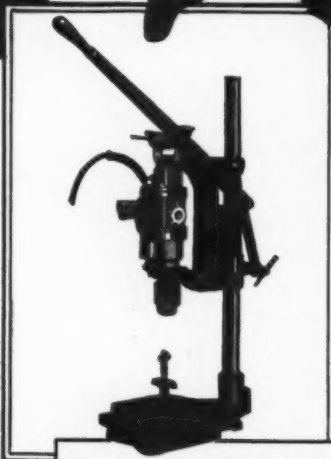
*1/4-Inch Heavy Duty
Electric Drill
Price, \$38.00*



*1/2-Inch Electric Drill.
Price, \$45.00*



*3/4-Inch Electric Drill.
Price, \$78.00*



With the use of Bench Drill Stand, the drill can be converted into a drill press. There is a Bench Drill Stand for all sizes Black & Decker drills.

For continuous performance, these Black & Decker Drills embody the utmost in power and stamina. They are complete ball-bearing tools, are powerful and sturdy—yet exceptionally light in weight in proportion to their size. They have ample electric capacity and will not heat under load.

Three-wire cable, which includes safety or ground wire, is standard equipment on all Black & Decker Tools.

The BLACK & DECKER MFG. CO.

Toronto, Ontario, Canada

TOWSON, MARYLAND

Sydney, Australia

Slough, Bucks, England

Consider Wire from *this Angle..*

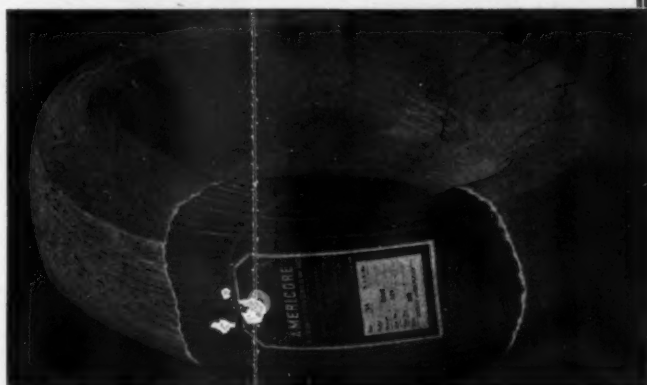
The biggest profit lies in a complete electrical installation—and because one job leads to another, it's good business to please your customers by using only the best material throughout.

In this respect Americore Rubber Covered Wire offers two big advantages. First—its superior quality will assure a trouble free job, one that will help build your reputation. Second—it is made by a company that is known everywhere for the reliability of its



products—a fact that will help you in selling.

Today—learn about this better wire in detail. Our engineers will gladly discuss your problems with you. Also—send for a free copy of our Electrical Wires and Cables Handbook.



AMERICORE RUBBER COVERED WIRE

AMERICAN STEEL & WIRE COMPANY

208 S. La Salle St., Chicago

SUBSIDIARY UNITED STATES STEEL CORPORATION

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"LATROBE" QUALITY PRODUCTS

It will pay you to use Fullman products because they are made right by a going, progressive manufacturer who has studied your requirements and is providing the best at the right price. Every Fullman product is reliable and in strict accordance with code. Order today from your jobber.



No. 300

tube work. Cheaper than baseboard outlets, especially in old buildings. Adjustable to suit all thicknesses of floor.

List price, each.....\$2.00

"Latrobe" Floor Boxes

No. 300 "Latrobe" Midget Floor Receptacle—A non-watertight floor receptacle and box approved by the Underwriters' Laboratories for installation in wood floors. Outlet, only 2-in. diam. Designed for open wiring with armored cable, non-metallic sheathed cable or knob and tube work. Cheaper than baseboard outlets, especially in old buildings. Adjustable to suit all thicknesses of floor.

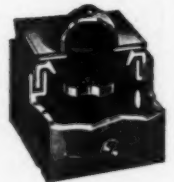


No. 208 T-Slot Receptacle

No. 251 "Latrobe" Adjustable Watertight Floor Box—Square; otherwise similar to No. 120 and No. 130 round boxes. The 3½-in. square cover plates are interchangeable and harmonize with covers of gang boxes. Several conduit holes permissible in each side. List price, each:

With ½-in. plug in cover.....\$5.00

With No. 208 receptacle and 2-in. plug in cover..... 5.80



No. 251

No. 100 "Latrobe" Non-adjustable Watertight Floor Box—Without Receptacle. Furnished with brass stem nozzle, but without receptacle, for telephone outlet, or where permanent connections are made, or as a junction box. Cover plate, 3½-in. diam.

List price, each:.....\$3.15
Complete..... 2.15
Without No. 206 Nozzle.....

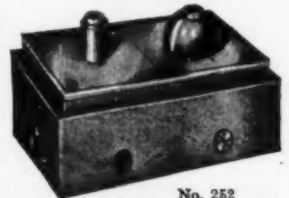


No. 100

Nos. 252, 253 and 254 "Latrobe" Gang Adjustable Watertight Floor Boxes—

Same as No. 251 box, but furnished in 2, 3 or 4-gang boxes respectively, with partitions between sections to separate low and high-tension wires. Cover plates, 3½-in. square and interchangeable.

List price, per section,
With ½-in. plug in cover.....\$5.00
With No. 208 receptacle and 2-in. plug in cover..... 5.80



No. 252



No. 110

No. 110 "Latrobe" Non-adjustable Watertight Floor Box—With Receptacle. Furnished complete with No. 208 T-slot receptacle and bell nozzle; fewest number of parts and least amount of labor to install. All fussy small screws, receptacle straps, filler plates and complicated assembly eliminated; the wireman simply attaches wires to receptacle and fastens in the box. Cover plate, 3½-in. diam.

List price, each, complete.....\$4.00
Without No. 207 Nozzle..... 3.00



"Bull Dog" Insulator Supports, malleable iron clamps, galvanized finish, for attaching insulators to steel framework and other structures. Rigid 3-point support is secured by the slightly slanted case-hardened steel set screws. Made in four sizes.

List prices, per 100:
No. 400.....\$20.00 No. 401.....\$30.00
No. 402..... 45.00 No. 403..... 75.00

No. 120 "Latrobe" Adjustable Watertight Floor Box—Without Receptacle. Furnished without receptacle and with or without brass stem nozzle for telephone outlet or where permanent connections are made, or as a junction box. Adjustable top with brass edge ring insures the 3½-in. diam. cover plate being absolutely flush with finished floor in fireproof construction.

List price, each:
Without No. 206 Nozzle.....\$3.75
No. 206 Nozzle only..... 1.00



No. 120

No. 625 "Latrobe" Conduit Bender. Combines two tools in one. By reversing the moveable jaw, it can be used for bending either ½ or ¾-in. conduit. It will not slip nor kink the conduit. Deep socket (threaded internally at bottom) for 1-in. pipe handle, eliminates couplings and insures full strength of handle. The socket clamp—a new feature—insures tight fit on undersize pipe handle and prevents handle from unscrewing. Made of malleable iron, galvanized finish.

List price, each.....\$3.00



"Keystone" Fish Wire. Finest grade flat steel wire, properly tempered to give desired stiffness and springiness. Put up in 100, 150 and 200-ft. coils in strong cartons.

List Prices per 100 Feet
No. 500.....(½"x.030").....\$1.50
No. 501.....(¾"x.030")..... 2.00
No. 502.....(½"x.030")..... 2.50
No. 600.....(¾"x.060")..... 2.00
No. 601.....(½"x.060")..... 3.00
No. 602.....(¾"x.060")..... 4.00
No. 604.....(½"x.060")..... 6.00



No. 130

No. 130 "Latrobe" Adjustable Watertight Floor Box—With Receptacle. Furnished with No. 208 T-slot receptacle installed at factory. The adjustable top with brass edge ring insures the 3½-in. diam. cover plate being absolutely flush with finished floors in fireproof construction.

List price, each:
Without No. 207 Bell Nozzle.....\$4.60
No. 207 Bell Nozzle only..... 1.00

[[MAIL THIS COUPON]]

Fullman Manufacturing Co.

1209-1215 Jefferson St., Latrobe, Pa.

Gentlemen: Please send me more information on the "Latrobe" line of Floor Boxes, Junction Boxes, Conduit Benders, etc. Also FREE copy of the National Electric Code.

Name.....Address.....

City.....State.....

ORGANIZED FOR QUICK DELIVERIES

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●W. H. Beaven
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Superior, WISCONSIN
Benson Electric Co.

Boxes. Floor

Bella and Buzzers

Size	3/8"	1/2"	3/4"	1"	1 1/8"	1 1/2"	2"	2 1/2"
Without Locknut.....	\$.05	\$.11	\$.14	\$.15	\$.20	\$.30	\$.45	\$.85
With Locknut.....	.09	.15	.18	.24	.30	.45	.77	1.15

Socket Bushings

Black Composition.....	3/8"	1/2"	3/4"	1"
For Sockets.....	\$.02	\$.02	\$.04	\$.08

BOXES, FLOOR

NON-ADJUSTABLE TYPE

Full- Steel City Co.	"Lat- man" robe" Mfg. Co.	Ru- sell & Stoll	Description	Price
477	110	2580	Comp. Out. with Std. Rec. & Bell Nozzle	\$4.50
490	100	2590	" " Less Std. Rec. with Stern Nozzle	4.00
490	100	2590	Comp. Out. Less Std. Rec. less Nozzle	2.80
491	.....	.....	Comp. Out. with 20A. Polars. Rec. & Bell Noz.	5.40
499	.....	.....	Midgett Out. with 10A. Receipt. No Nozzle	2.60
495	.....	.....	Square Out. Less Receipt. with Bell Nozzle	5.00
496	.....	.....	Square Out. With 15 Amp. Rec. & Bell Nozzle	6.20
497	.....	.....	Sq. Out. With 25 A. Rec. & Large Bell Nozzle	9.90

ADJUSTABLE TYPE

400	120	2502	Complete-Shallow Box—Less Receptacle	\$4.65
400	....	....	Complete-Deep Box—Less Receptacle	5.25
401	130	....	Complete-Shallow Box With Receptacle	5.60
401	....	....	Complete-Deep Box With Receptacle	6.30
420	....	....	Complete Large Size Box Without Receptacle	5.95
421	....	....	Complete Large Size Box With Receptacle	6.60

ADJUSTABLE GANG TYPE

441	351	2511	Single Gang Less Recept. with 1/2" Cover Plate	\$ 5.40
442	252	2512	Two " " " " " "	10.80
443	253	2513	Three " " " " " "	16.20
444	254	2514	Four " " " " " "	21.60
445	....	2515	Five " " " " " "	27.00
Extra for Brass Cover Plate and Receptacle.....Per Gang				1.65

G. E. & T & B BOXES

G. E.	T & B	Description	
8000	8000	Utility Outlet Box.....	\$1.00
8200	1700	Two Wire Floor Box.....	5.00
8220-40	1701	Three Wire Floor Box.....	6.00
8300	1200	Special Outlet Extension Type.....	2.90
8400		Master 2 Wire Plug Outlet.....	6.00
8420-40		Master 3 Wire Plug Outlet.....	7.75
	100-200	Complete—Cover, Nozzle, Plug and Receptacle.....	4.00
.....	1100	Complete—Cover, Nozzle, Plug and Receptacle.....	8.25

BOXES, CUTOUT

TYPE "A" SURFACE CUTOUT BOXES

Black

Width Length.				Short Long				
Side	5	3°	4°	6°	Side	3°	4°	6°
Deep	Deep	Deep	Deep	Deep	Side	Deep	Deep	Deep
4½	5	\$.55	.....	.....	12	30	\$10.75	\$12.40
4¾	9	.65	.....	.....	15	.....	2.75	4.15
4¾	9 3/4"	.65	.....	.....	15	18	3.00	4.75
6	6	.85	\$ 1.80	\$1.20	15	24	5.75	6.50
6	8	1.00	.95	1.40	30	.....	13.30	15.20
6	9	.65	1.50	1.80	18	.....	7.75	5.40
6	12	1.35	1.10	1.95	18	21	10.65	12.50
8	8	1.35	1.05	1.70	18	24	12.20	13.00
8	10	1.45	1.20	2.00	18	30	15.20	15.40
8	12	1.80	1.40	2.25	18	36	17.80	19.40
9	9	1.15	1.80	2.30	18	40	19.50	21.80
9	12	1.40	1.15	1.60	18	24	15.30	17.40
10	10	1.70	1.40	2.35	24	30	19.10	20.80
10	12	1.95	1.70	2.65	24	36	22.35	23.75
10	15	2.35	1.85	3.10	24	40	24.30	26.60
10	18	2.70	3.00	3.60	24	44	41.35	45.30
12	12	2.25	1.80	3.00	30	30	27.20	29.65
12	15	2.40	1.9	3.50	30	36	47.35	51.30
12	18	.....	2.50	4.00	30	42	48.85	53.00
12	24	.....	4.40	5.40	30	48	56.70	61.30

For Galvanized Boxes Add 50% to above prices.

BELLS & BUZZERS

Ansonia

Name	No.	Description	Buzzer	2 1/4" Bell	3" Bell	4" Bell	Cow or Sleigh
.....	656	Sale. Coil Non Adjust.	\$.45	\$.50	.....	.....	.....
.....	657	Dbble. Coil Non Adjust.	.60	.55	.....	.....	.....
.....	652	Dbble. Coil Round Non Adjust.	.60	.65	.....	.....	.....
Wizard	659	Dbble. Coil Non Adjust.	.90	.95	.....	.....	.....
Eureka	641	Dbble. Coil Adjust. Class B	1.00	1.05	\$1.25	\$1.60	\$1.90
Acme	631	Dbble. Coil Adjust. Class A	1.35	1.40	1.50	1.85	2.15
Eureka	621	Dbble. Wood Box Bell	1.30	1.35	1.45	1.70	1.90
Monitor	658	Round Type	.....	1.55	.....	.....	.....
Monitor	661	Round Type	.....	1.55	.....	.....	.....
Wizard	660	Comb. Bell & Buzzer	.....	1.25	1.85	.....	.....
Wizard	665	Comb. Buzzer & Mat	.....	.....	.....	.....	.....
Wizard	666	Watch Case Buzzer	1.90	.....	.....	.....	.....
Antonia	663	Comb. Bell & Buzzer	.....	1.00	1.10	.....	.....

BELLS AND BUZZERS—Continued

Edwards

Name	No.	Size	Description	Price
Nubel	735	2 3/4"	Two Coil Non-Adjust.-Gray Enam. Bell	.65
	738		Buzzer	.60
Dixie	720	2 1/4"	" " Class C-Non-Adjust. Bell	.95
	725		Buzzer	.90
Cambell	737	2 3/4"	Two Coil Non-Adjust.-Gray Enam. Bell & Buzzer	1.15
Tubell	738		Dble. Coil Non-Adjust.-Gray Enam. Two Bells	1.25
Cadet	710	2 3/4"	Two Coil-Class B-Adjust. Bell	1.05
"	715	"	" " " " Buzzer	1.00
"	712	3"	" " " " Bell	1.25
"	714	4"	" " " " Bell	1.60
			Cow or Sleigh	1.90
Bus-A-Bell	730	2 1/4"	Two-Coil-Class C Comb. Bell & Buzzer	.20
Monitor	156	3"	Monitor Bell-Nickel Plated Gong	1.55
Monroz	156	1 3/4"	Nickel Watch Case Buzzer	1.30

Edwards—Lungen

No. 13 Bells

Size	Price
1 st	\$2.00
1 st	1.80
2 nd	1.60
3 rd	2.00
4 th	2.20
6 th	0.60
Cow or Steigh	2.38

No. 15 Buzzers

Size	No.	Price
1 1/2" x 1 1/2"	No. 0.....	\$1.85
2 1/2" x 1 1/2"	No. 1.....	1.50
2 1/2" x 1 1/2"	No. 2.....	1.70
3" x 2 1/2"	No. 3.....	2.00
3 1/2" x 2 1/2"	No. 4.....	2.25

Partrick & Wilkins

Iron Box Bells

Small 2½" Iron Box Bell Non-Adjust. Dble. Magnet.....	\$.75
Fancy Gong Cow or Sleigh Non-Adjust. Dble. Magnet.....	1.65
King Monitor Bell.....	1.65
6" Large Iron Box Bell for Battery Current.....	7.30
8" " " " " " " " " " " "	10.50

Buzzers

Small Iron Box Buzzer Non-Adjust. Dble. Magnet	\$.75
Watch Case Buzzer Nickeled.....	1.10
Midget Buzzer Nickeled.....	1.85
Wood Box Buzzer.....	2.15
Flush Buzzer with Flush Plate.....	3.35

Wood Box Bells

Regular Type	Price	Large Type	Price
2 1/4" Regular.....	\$ 2.20	8" Regular.....	\$ 6.55
3" ".....	2.30	8" ".....	8.00
4" ".....	2.60	10" ".....	13.10
Standard Cow or Dinner...	3.10	5" Dinner.....	11.25
3" Dinner.....	5.15	6" ".....	13.05
4" ".....	5.85	5" Cow.....	13.75
3" Cow.....	6.75	6" ".....	16.00
4" ".....	10.00		

P. R. Stanley & Patterson

Name	No.	Description	Buzzer	2 1/2" Bell	3" Bell
Competition	400-1	Dble. Coil Non-Adjust.	\$.60	\$.65	.....
Eclipse	200-1	" " " "	.90	.95	\$1.05
XXX	211-18	" " Adjust. B	1.00	1.05	1.25
Marlo	221-29	" " " A	1.65	1.70	1.85
Eclipse	308	Comb. Bell & Buzzer	1.25	1.25	.....
Competition	402	" " " "	1.25	1.15	.....
Midget	313-34	All Nickeled Bell	1.50	1.85	.....
P. R.	240	Watch Case Buzzer	1.45	.....	.....
P. R.	238	Monitor	1.65	.....	.....

Name	No.	Description	Bell	Cow or Sleigh
Competition	400-1	Dble. Coil Non-Adjust.....	.....	.....
Eclipse	200-1	" " " " " " " " " "	\$1.35	.....
XXX	211-18	" " Adjustable B.	1.60	\$1.90
Marlo	221-29	" " A.	2.25	2.65
Eclipse	208	Comb. Bell & Buzzer .....	.....	.....
Competition	409	" " " " " " " " " "	.....	.....
Midget	331-34	All Nickled Bell .....	.....	.....
P. R.	240	Watch Case Buzzer .....	.....	.....
P. R.	238	Monitor .....	.....	.....

Schwarze

	Buzzer	2 1/2"	3"	4"	Tca
Single Coil Bell No. 31 & 32....	\$.60	\$.85	\$.80	\$1.50	\$1.35
Two Coil Bell No. 311-321-331.	.55	.60	.75	.95	.....
Combination Bell & Buzzer No. 331.....		.95	.....	.....	.....
Flush Type Buzzer No. 315....	1.20	.....	.....	.....	.....
Door Bell 26A or 26D.....	.....	.....	1.75	.....	.....

SKELETON BELLS

Any Make

	2½"	3"	4"	5"	6"	8"	10"	12"
Class A...	\$5.75	\$6.10	\$7.25	\$9.40	\$10.60	\$16.00	\$25.00	\$31.00
" B....	5.35	5.60	6.65	7.85	9.95	14.45	21.40	27.60

Push Buttons, Etc.

Brackets for Insulators

PUSH BUTTONS, TREADS, SPRINGS

STANDARD PUSH BUTTONS AND TREADS

Description	Ans.	Edw.	Fara.	P&W	Price
Round 1 1/4" and 1 1/2" Stamped Brass.....	306	603	SP51	29	\$0.25
Round 2 1/4" Stamped Brass.....	327	600	SP50	27	.25
Round 2 3/4" with Card Holder Brass.....	507	601	SP57	25	.40
Rectangular 4x2" S. B. Brass.....	604	SP54	55	.40	
Rectangular 3 1/4"x1 1/4" S. B. Brass.....	605	SP53	50	.40	
Oval 2 1/4"x1 1/4" S. B. Brass.....	606	SP55	50	.30	
Oval 4 1/2"x2 1/2" S. B. Brass.....	609	SP56	50	.45	
Pear Push Buttons—Wood or Composition.....	505	67	5-9	3	.60
Pear Push Buttons—Metal, Nickel or Brass.....	65	MP5	85		
Desk Buttons—1/4" Hole—Nickel.....	562	59	7A	75	
Desk Buttons—1/2" Hole—Nickel.....	63			.65	
Desk Buttons—3/4" Hole—Nickel.....	D33	620	5A	.45	
High Voltage 1/4" Hole—110 Volts.....	85		855	2.40	
Table Clamp with Push Button.....	571	206	TC1	1.00	
Floor Pushes Combination Nickel.....	560	235	CFP2	.85	
Floor Pushes—"Daisy" "Dixie".....	800	290	FT1	1.50	
Wood Push Buttons.....				.20	

COMPOSITION MOULDED PUSH BUTTONS

Round Plain 1 1/4" Diam.....	\$0.35	Rectangular Plain 1 1/4"x3 1/4".....	\$0.45
Octagon Fancy 1 1/4"x1 1/4" Diam.....	.40	Rectangular Fancy 1 1/4"x3 1/4".....	.70
Oct. Card Holder 2 1/4"x2 1/4" Diam.....	.60	Rec. Double Card Holder.....	.90

DESK PUSHES—COMPOUND

With Buttons

Make and Description	Button	1	2	3	4	5	6
Edw. #146—Bakelite Block.....	\$2.10	\$2.50	\$3.20	\$3.65	\$4.50	\$5.25	
Edw. #197 Less Cord Bake.Bl.....	3.50	4.75	6.00	7.25	8.50	9.75	
Edw. #197 with 6" Cord Bake.Bl.....	4.05	6.10	7.75	9.45	11.15	12.85	
Edw. #190 Wood—Less Cord.....	4.00	5.35	6.60	8.10	9.40	10.80	
Edw. #190 Wood with Cord.....	4.45	6.65	8.35	10.30	12.05	13.90	
Fara. #4C Wood Less Cord.....	2.00	2.80	2.60	3.05	3.50	3.90	
Fara. #2A Wood Less Cord.....	4.90	7.00	8.50	10.90	12.40	13.80	
Fara. B.D.P. Bake. Less Cord.....	3.50	4.75	6.00	7.25	8.50	9.75	
Fara. M.D.P. All Metal Less Cord	6.00	11.00	16.00	21.00			
P&W #4 Wood Less Cord.....	2.60	2.80	3.50	4.30	4.85	5.60	
P&W #5 Wood Angle Less Cord				13.00		13.95	
P&W #12 Wood Less Cord.....	3.30	4.25	5.45			6.00	

DOOR AND WINDOW SPRINGS

Door Springs

Window Springs

Open Circuit Door Spring.....	\$0.40	Open Circuit Single.....	\$0.60
Closed Circuit Door Spring.....	.50	Open Circuit Double.....	.85
Open Circuit Make and Break.....	.50	Close Circuit Single.....	1.00
Open Circuit Door Trip.....	1.00	Open Circuit Transom.....	1.60

OTHER PUSH BUTTONS

Ansonia

Round Stamped	Price	Round Cast	Price
514 1 1/4" Loose Back.....	\$0.30	511 1 1/4" Loose Back.....	\$0.90
515 2 1/4" Loose Back.....	.40	512 2 1/4" Loose Back.....	1.00
513 1 1/2" Loose Back.....	.95	508-10 2 1/4" Loose Back.....	1.00
579 1 1/4" Flush Push.....	1.00	540 2 1/4" Loose Back.....	.60
E33 1 1/4" Flush Push.....	1.00	550 2 1/4" Loose Back.....	.85
		570 2 1/4" Loose Back.....	.75

Other Ansonia Push Buttons, Etc.

F-33 Stamped Flush Push.....	\$0.70	545 Oblong 2 Gang for Cards.....	\$1.85
G-33 Stamped Diamond Push.....	.70	545 Oblong 3 Gang for Cards.....	2.65
521-524 Stamped Push.....	.75	545 Oblong 4 Gang for Cards.....	3.65
528-534 Stamped Push.....	.95	546 Oblong 1 Gang.....	1.65
536-537 Stamped Push.....	1.00	547 Oblong 2 Gang.....	1.50
538 Stamped Oblong Push.....	1.25	548 Oblong 1 Gang.....	.75
541 Oblong for Card.....	1.65	549 Oblong 1 Gang.....	1.20
543 Oblong 2 Point.....	1.25	577 Diamond Push.....	.70
544 Oblong for Card.....	1.20	578 Diamond Push.....	.75
Combination Floor Pushes Complete 573.....			2.50
Combination Floor Pushes Complete 575.....			2.65
700 1 Point Wood Base Switch.....			.45

Edwards

Round Desk Buttons

Oblong Push Buttons

621—1 1/4" Hole.....	\$1.40	602—2 Gang for Cards.....	\$1.00
622—1 1/2" Hole.....	1.45	607—Single for Cards.....	.40
625—1 1/4" Hole.....	.50	608—Single.....	.45

Partrick & Wilkins

Round Push Buttons

Stained Wood Push #2.....	\$0.15
Oak Wood Regular #1.....	.35
Oak Open, Closed and Dbl. Cont. #1.....	.65
Oak Triple Contact #1.....	.90
Cast Brass 1 1/4" Diam. #8.....	.70
Cast Brass 2 1/4" Diam. #0.....	.75

Oblong Pushes

16 Cast Brass 4 1/4"x1 1/4" Screw Cap.....	\$1.55
31 Cast Brass 5 1/2"x3 1/4" Screw Cap.....	2.30
44 Cast Brass 4 1/2" Screw Cap.....	1.40
708 Wrought Push and Speak 1 Pcs.....	1.35
907 2 Button and Card Holder.....	2.15
908 3 Button and Card Holder.....	2.95
900 4 Button and Card Holder.....	4.55

OTHER PUSH BUTTONS—Continued

Partrick & Wilkins

Desk Push Buttons

Car Push 1 1/4" Hole Black Center.....	\$0.45
Multiple 1 1/4" Hole Black Center.....	1.85
Pony 1 1/4" Hole Black Center.....	1.85

Pear Shape Pushes

Compound Maple 2 Button.....	\$2.00
Compound Maple 3 Button.....	3.00
#4 Fancy Pear Two Piece.....	.25
Wood Rosettes for above.....	.40

MULTIPLE PUSH BUTTONS

Couch "Pushrites"

With Card Holders

Number of Buttons	Wood Base Type		Flush Brass Plate Type	
	Plain Base	Weighted Base	Number	Price
4	7900	\$ 3.35	7980	\$ 3.75
6	740	4.60	789	5.20
8	7910	5.80	7990	6.85
12	7921	8.30	79010	9.60
16	7930	10.80	79020	12.45
20	793	13.30	7902	15.40
			7970	17.50
			797	21.60

COUCH UNMOUNTED PUSH BUTTONS "WORKRITES"

No. 97 for 1/4" Hole.....	\$0.50
Adaptor No. 0684 for same.....	.05

BRACKETS FOR INSULATORS

WOOD BRACKETS

	Each		Each
1 1/4" x 2" x 10".....	\$1.10	1 1/4" x 2" x 12".....	\$1.10
1 1/4" x 2" x 12".....	.10	2" x 2 1/4" x 12".....	.12
1 1/4" x 2 1/4" x 12".....	.10	2" x 2 1/2" x 12".....	.12
		2" x 3" x 12".....	.16

PINS

	Each		Each
Locust 1 1/4" x 8".....	\$1.10	Locust 1 1/4" x 9".....	\$1.12
Oak 1 1/4" x 8".....	.05	Oak 1 1/4" x 9".....	.05

HOUSE BRACKETS WITHOUT INSULATORS

Peirce

Light Type			Heavy Type			Corner Type		
No.	Points	Price	No.	Points	Price	No.	Points	Price
153	One	\$.25	154	One	\$.40	150	One	\$.30
253	Two	.55	254	Two	.80	242	Two	.55
353	Three	.90	354	Three	1.10	342	Three	.80

WIREHOLDERS WITH INSULATORS

Peirce

No.	Wires	Spacing	Price
1607	One	0	\$.25
190	"	0	.30
191	"	0	.30
296	Two	6	.55
299	"	9	.60
394	Three	4 1/2	.80
396	"	6	.55

HOUSE RACKS WITH INSULATORS

Peirce

No.	Wires	Length	Space	Price
183	1	6 1/4	0	\$.40
286	2	12 1/4	6	.80
383	3	12 1/4	3	.95
386	3	18 1/4	6	1.20

SECONDARY RACKS WITH INSULATORS

Peirce

Light Type			Heavy Type		
No.	Wires	Space	No.	Wires	Space
276	2	8"	278	2	8"
376	3	8"	378	3	8"
1276	2	8"	1278	2	8"
1376	3	8"	1378	3	8"
2768	2	8"			
3768	3	8"	1378	3	8"

INSULATORS ONLY FOR ABOVE BRACKETS

Peirce

355 Insulator.....	\$.18	1602 Insulator.....	\$.12
356 ".....	.25	1603 ".....	.10

PL-8

Brackets

HOUSE BRACKETS WITHOUT INSULATORS National Elec. Products

Light Type			Heavy Type			Corner Type		
No.	Points	Price Each	No.	Points	Price Each	No.	Points	Price Each
106-10	1	\$.25	109-10	1	\$.45	111-10	1	\$.30
108-26	2	..	123-6-7	1	.40	111-50	1	.50
108-29	2	.55	109-26	2	.80	111-29	2	..
108-36	3	.95	109-36	3	1.15	111-36	3	.85

HOUSE RACKS WITH INSULATORS National Elec. Products

Light Type			Heavy Type		
No.	Points	Length	No.	Points	Length
104-10	1	5 1/4"	101-24	2	9 1/4"
104-26	2	11 1/4"	101-28	3	13 1/4"
104-33	3	11 1/4"	101-34	3	13 1/4"
104-36	3	18"	101-38	4	21 1/4"
104-53	5	18"	101-44	4	17 1/4"
104	Insulator Only		101	Insulator Only	

WIREHOLDER ACCESSORIES National Elec. Products

No. 5000 Corner Chair....	\$.13	No. 5040 Break Arm Strap....	\$.14
No. 5020 Insulator.....	.18	No. 5051 " " Bolt.....	.20
No. 5021 U Bolts & Nuts..	.10	No. 5052 T Head Screw.....	.03

SINGLE POINT WIREHOLDERS National Elec. Products

No.	Points	Length	No.	Points	Length
5211.....	25	5311.....	20	5411.....	35
5214.....	35	5314.....	30	5414.....	40
5215.....	45	5315.....	35	5415.....	50

WIREHOLDERS WITH INSULATORS National Elec. Products

For One Wire		For Two Wires		For Three Wires	
No.	Each	No.	Each	No.	Each
No. 5011.....	\$.28	No. 5002.....	\$.60	No. 5003.....	\$.85
No. 5001.....	.25	No. 5012.....	.55	No. 5023.....	.80

WIREHOLDERS WITH INSULATORS National Elec. Products

Light Type			Heavy Type		
No.	Points	Length	No.	Points	Length
105-1X	1	6"	106-1	1	6"
105-1	1	6"	106-10	1	6"
105-10	1	4 1/4"	106-26	2	11 1/4"
105-26	2	10 1/4"	106-28	2	14 1/4"
105-29	2	13 1/4"	106-36	3	17 1/4"
105-34	3	13 1/4"	106-36X	3	17 1/4"
105-36	3	10 1/4"	106	Insulator Only	
105	Insulator Only				

B-SUNDRIES, BOLTS, ETC.

CARRIAGE BOLTS Galvanized

Length		Length		Length	
3"	3 1/2"	4"	4 1/2"	5"	5 1/2"
3/4" Diam. Each..	\$.05	\$.05	\$.05	\$.07	\$.07
1/2" " " " " "	.08	.09	.10	.10	.11

MACHINE BOLTS WITHOUT WASHERS Galvanized

Length		Length		Length	
3"	4"	5"	6"	7"	8"
3/4" Each.....	\$.05	\$.06	\$.07	\$.08	\$.08
1/2" " " " " "	.08	.09	.10	.11	.12
3/8" " " " " "	.12	.13	.14	.15	.16
1/4" " " " " "	.15	.16	.17	.18	.19

STOVE BOLTS Round or Flat Head

Length		Length		Length	
Up to 1"	Long Per Dozen.....	1 1/4"	1 1/2"	1 3/4"	2"
1 1/4" to 1 1/2"	..	.10	.10	.12	.15
1 1/2" to 1 3/4"	..	.10	.12	.15	.25
1 3/4" to 2"	..	.10	.12	.15	.25
2" to 2 1/4"	..	.10	.12	.15	.25
2 1/4" to 2 1/2"	..	.10	.12	.15	.25
2 1/2" to 2 3/4"	..	.10	.12	.15	.25
2 3/4" to 3"	..	.10	.12	.15	.25
3" to 3 1/4"	..	.10	.12	.15	.25

TOGGLE BOLTS, STEEL

Length		Length		Length	
2"	3"	3 1/2"	4"	5"	6"
3/4" Long Price Each.....	\$.10	\$.10	..	\$.10	..
1/2" " " " " "	.10	.10	.10	.10	.10
3/8" " " " " "	.11	.11	.12	.12	.13
1/4" " " " " "	.13	.13	.14	.14	.15

NOTE: For Brass Toggle Bolts—2 1/4 times above prices.

ROUND FIXTURE BLOCKS Solid Half or Full Plowed

3" x 4" Round	4 x 5" Round	5 x 6" Round
\$.12	\$.15	\$.18
Ceiling Button—P & S Porcelain No. 170—Each.....		\$.12
Switch Base—See Snap Switches Page PL-19.		

CORDS, FIXTURE, LAMP AND HEATER

SINGLE FIXTURE CORD

Single Lamp Cord		Price Per Foot		No. 14 No. 12	
Type	No. 18	No. 16	No. 14	No. 12	
Single Cotton Covered Cord—Light F-64	\$.01	\$.02	\$.02 1/2	..	
Single Cotton Covered Cord—Heavy F-32	.01 1/2	.02	.03	\$.04	
Single Artificial Silk Cord—Light... F-64	.01 1/2	.02 1/2	.03	..	
Single Artificial Silk Cord—Heavy... F-32	.01 1/2	.03	.04	..	

DOUBLE LAMP CORD

Regular Lamp Cord		Price Per Foot		No. 14 No. 12	
Type	No. 18	No. 16	No. 14	No. 12	
Cotton Covered Twisted Pair.....	C	\$.03	\$.03 1/2	\$.05	\$.09
" " Parallel Pair.....	PO	.03	.05	.07	..
" " Twisted Parallel Pair.....	PD	.03 1/2	.08	..	..
Artificial Silk Twisted Pair.....	C	.03	.04	.07	..
" " Parallel Pair.....	PO	.03 1/2	.05	.08	..

REINFORCED CORD

Not Asbestos		Price Per Foot		No. 14 No. 12	
Type	No. 18	No. 16	No. 14	No. 12	
Cotton Covered Light Type 1/4" P5	\$.04	\$.05	\$.08	..	
Weatherproof Light Type 1/4" PSWP	.04	.06	.08	\$.15	
Heavy Type 1/4" PWP	.05	.06	.08	..	

HEAVY DUTY PORTABLE CORD "Duracord" or Similar. Extra Reinforced

Price Per Foot		No. 14 No. 12	
Type	No. 18	No. 16	No. 14
Type P5 Light 2 Cond. Port. Cord..	\$.10	..	..
" " P Heavy 2 " " " " "	.13	\$.16	\$.20
" " P 3 " " " " "	..	.17	.26

ALL RUBBER CORD

"Tirez" "Royal" "Super" "Indestructo" or Similar

Price Per Foot		No. 14 No. 12	
Type	No. 18	No. 16	No. 14
SJ Junior 3 Conductor Black.....	\$.09	\$.12	..
" " 2 " Black.....	.10	.13	..
" " 3 " Black.....	.13	.15	..
S Type Heavy 3 Conductor Black..	.13	.14	\$.26
" " 3 " " " " "	.17	.18	\$.35
" " 4 " " " " "	.18	.25	.45
" " Sgl. Cond. Black...	.08	.09	.10

HEATER CORD

Price Per Foot		No. 14 No. 12	
Type	No. 18	No. 16	No. 14
Asbestos Covered	No. 18	No. 17	No. 16
Stand. Twisted or Wound Asbest. 1/4"	\$.05	\$.05	\$.06
American Beauty Heater Cord.....	..	..	..
Rockbestos Heater Cord.....	.07	.07 1/2	.08
Universal No. 9092 Super Flexible...	..	.09	.08

Price Per Foot		No. 14 No. 12	
Type	No. 18	No. 16	No. 14
"Deitabeston" Heater Cord	No. 18	No. 17	No. 16
Type A Asbestos Braid overall.....	\$.09	..	\$.10
" C Cotton Braid overall.....	.07	.08	.10
" D " " on ea. cond.....	.07	.09	.10
" E Cotton on ea. Cond. & over both.....	.08	.10	.11

NOTE—For Armored Cords See Page PL-9.
Extension Cords See Page PL-10.
Fixture Wire See Pages PL-26 & 27.
Bell Wire See Page PL-27.

MISCELLANEOUS CORD

Price Per Foot		No. 14 No. 12	
Description	Type	No. 18	No. 16
x Brewery Cord.....	CB	\$.04	\$.05
x Canvasite Cord.....	CC	.06	.07
x Deck Cable.....	PWP	.07	.08
x Packinghouse Cable.....	PKWP	.06	.07
x Stage & Theatre Cable..	T	.06	.07
x Note—These prices are based on less than coil lot trade prices.			

CONDUCTING BELL CORD Spun Silk

Price Per Foot		No. 14 No. 12	
Number of	2	3	4
Conductors	2	3	4
Price Per Foot.....	\$.08	\$.18	\$.20

Note—For Armored Lamp Cord See Page PL-9.

CONDUIT, ELBOWS, COUPLINGS, BUSHINGS, ETC.

RIGID CONDUIT

	Black Per Foot	Galv. Per Foot	Cutting & Threading Per Thread	Cutting Only Per Cut
1/2"	.10	.11	.20	.10
3/4"	.12	.14	.20	.10
1"	.18	.20	.25	.10
1 1/4"	.24	.27	.30	.15
1 1/2"	.29	.32	.35	.15
2"	.39	.43	.40	.20
2 1/2"	.62	.68	.60	.25
3"	.81	.90	.80	.30
3 1/2"	1.08	1.12	.70	.30
4"	1.25	1.37	.80	.30

THIN WALL CONDUIT

	Price 1/2" 3/4" 1"
Threadless Thin Wall Conduit, Per Foot.....	.09 .12 .16
Adaptor, Each.....	.08 .12 .20
Coupling or Connector, Each.....	.22 .30 .40

Note—One Coupling with Bushings is Included with Each 10 Foot Length of Conduit.

ELBOWS OR BENDS, COUPLINGS, OR UNIONS, BUSHINGS, LOCKNUTS, REDUCERS

Price Each

Size Each	Bends or Elbows	Couplings	Bushings	Locknut	Union	Reducers
1/2"	Black .15 Galv. .17	Black .10 Galv. .11	Galv. .02	Galv. .01	Galv. .40	.21
3/4"	.19 .22	.14 .16	.02 1/2	.01 1/2	.35	.21
1"	.28 .32	.18 .19	.05	.02 1/2	.75	.28
1 1/4"	.39 .43	.24 .26	.08	.05	1.20	.42
1 1/2"	.52 .58	.30 .32	.10	.08	1.66	.56
2"	.63 .66	.40 .43	.20	.11	3.25	.70
2 1/2"	1.40 1.60	.57 .63	.30	.19	6.40	1.30
3"	3.70 4.20	.80 .88	.40	.32	9.75	1.76
3 1/2"	8.25 9.25	1.08 1.20	.58	.40	.....	2.60
4"	9.50 10.60	1.35 1.45	1.40	.58	.....	3.58

Also on Page PL-10. Also on Page PL-5. Also on Page PL-12.

FLEXIBLE METALLIC CONDUIT

"Greenfield", "Flexsteel", or Equivalent

Single Strip Per Foot....	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Double Strip Per Foot....	.09	.12	.15	.21	.38	.45
For Fittings for Metallic Conduit See Page PL-14.	.11	.14	.17	.24	.42	.50
For Non-Metallic Conduit or Loom See Page PL-15.					.71	.89

For Steel Armored Cable & Lead Covered See Next Item.

CABLE, ARMORED & NON-METALLIC SHEATHED

ARMORED CABLE, "BX", "ABC", "FLEXSTEEL", OR SIMILAR

			Price Per Foot	No. 14	No. 12	No. 10
TWO CONDUCTOR	Solid	Single Strip	.06	.10	.14	
THREE CONDUCTOR	Stranded	" "	.09	.13	.17	
FOUR CONDUCTOR	Solid	" "	.21	.26	.....
ONE CONDUCTOR	Solid	" "	.12	.13	.15	
CONDUCTOR	Stranded	" "	.....	.....	.17	
OVALFLEX	2 Conductor	" "	.07	.11	.13	
	3 Conductor	" "	.10	.14	.....

			Price Per Foot	No. 8	No. 6	No. 4
TWO CONDUCTOR	Solid	Single Strip	.20	.32	.49	
THREE CONDUCTOR	Stranded	" "	.22	.32	.49	
FOUR CONDUCTOR	Solid	" "	.27	.38	.64	
ONE CONDUCTOR	Solid	" "	.....	.....	.....
CONDUCTOR	Solid	" "	.16	.20	.....
OVALFLEX	Stranded	" "	.18	.21	.34	
	2 Conductor	" "	.....	.....	.....
	3 Conductor	" "	.....	.....	.....

Double Strip Armored Cable add 30% to above prices.
Anti-Short Fibre Bushings for ABC Cable, Each..... \$.01
Clips or Staples 3/8" for Armored or Non-Metallic Cable, Each..... .01

"ABC" LEAD COVERED ARMORED CABLE

			Price Per Foot	No. 14	No. 12	No. 10
Single Conductor Solid Lead	Covered	.....	.18	.....	.....	.....
" " Stranded	" "	.....	.32	.35	.40	
Two Conductor Solid	" "	.....	.43	.50	.56	
" " Stranded	" "	.....	.....	.....	.....

			Price Per Foot	No. 8	No. 6	No. 4
Single Conductor Solid Lead	Covered	.....	.33	.52	.....	.....
" " Stranded	" "	.....	.65	.88	.....	.....
Two " " Solid	" "	.....	.88	1.24	1.72	
" " Stranded	" "	.....	.....	.....	.....

Electrical Contracting, May, 1930

"ABC" ARMORED LAMP CORD

	Single Strip	Per Foot	No. 18	No. 16	No. 14
Plain Armored Lamp Cord, Two Conductor.....			.13	.14	.19

Add 30% for Double Strip

NON-METALLIC SHEATHED CABLE "Romex", "Loomwire", "Wireflex", or similar

	#14	#12	#10	#8	#6	#4
(With or Without Ground Wire)						
Wire 2 Conductor per Foot.....	\$0.05 1/2	\$0.07	\$0.10	\$0.15	\$0.21	\$0.30
Wire 3 Conductor per Foot.....	.08 1/2	.12	.15	.23	.30	.43
Fitting-Straps Each.....	.01	.01	.01	.01	.01	.01
Fitting-Clips Each.....	.03	.03	.03	.....	.....	.....
Fitting-Connectors Each.....	.10	.10	.20	.20	.30	.55

CUTOUTS OR FUSE BLOCKS

PLUG CUTOUTS 30 Amp. Porcelain

Description	Price
Single Pole—Main Line.....	62589 .25
Double " " ".....	62585 .35
Triple " " ".....	62108 .50
Double Pole Single Branch.....	61935 .35
" " Double ".....	62587 .55
" " Single or Double Cross Branch.....	8020 .40
Triple to D. P. Double Branch.....	62109 .55
Triple Pole Single Branch.....	8042 .65
" " Double ".....	62135 .85

DEAD FRONT CUTOUT BASES

Plug Type—30 Amp.

	With Short Cover	With Long Cover
	Numbers Price	Numbers Price
BRYANT		
Dble. Pole Sgle Branch.....	71935 or 71035 \$.95	
" " Dble. ".....	72587 " 72087 1.45	82587 or 82087 \$1.55
Tripl.to Dble.Pole Dbl.Branch	72199 " 72099 1.65	82199 " 82099 1.75
	With Covers	Without Cov.
G. E. or TRUMBULL	G.E. Trumbull Price G.E. Price	
3 Wire Single Branch—2 Circuit.	2435 3190	1.35 2436 \$.70
3 " Double " —4 " "	2440 4199	2.00 2441 1.00

ENCLOSED CARTRIDGE CUTOUTS OR BASES

Porcelain Base, 250 Volts

	0-30 Amp.	31-60 Amp.	61-100 Amp.
Single Pole Main Line Enclosed Porcelain.....	\$.45	\$.75	\$1.55
Double " " ".....	.60	1.55	3.10
Triple " " ".....	.80	2.20	4.65
Double Pole Single Branch Porcelain.....	.80	2.00	.....
" " Double ".....	1.45	3.85	.....
Triple to Double Pole Double Branch Porcelain.....	1.85	4.65	.....
Triple Pole Single Branch Porcelain.....	1.50	3.30	.....
Triple Pole Double Branch Porcelain.....	2.50	6.60	.....
Single Pole Main Line Cutout Base 600 Volt.....	.65	1.00	1.75

SLATE BASE

	250 Volt	600 Volt	30 A. 60A.	100A.	200A.	400A.	600A.
Single Pole-Slate Base-250 V.....	.55	.80	\$1.75	\$2.85	\$6.95	\$9.50	
" " " 600 V.....	.80	1.15	2.00	3.15	7.90	10.25	

Prices on cutouts do not include fuses

C-SUNDRIES

GROUND CLAMPS

	1/4 to 1"	1/4 to 2"	1/4 to 3"	1/4 to 4"
Standard Adjustable Ground Clamps, any make	\$.12	.15	.20	.35
Blackburn.....	.24	.38	.35	.45
Other Types	.....	.....	.....	.....
Chase Shawmut 3860-68	.25	.30	.35	.45
G. V. A Series 5000....	.25	.30	.35	.45

STRAPS, CLIPS OR CLAMPS For Pipe, Without Screws

	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Galvnd. Straps, 2 Hole	\$.01	.01	.01	.01	.02	.02	.04	.05	.06
Per Pound.....	.45	.40	.25	.20	.13	.12	.07	.05	.04
No. Straps per Pound....	.04	.05	.06	.08	.....	.....	.....	.....	.....
Light Steel Straps, 1 Hole	.06	.07	.08	.11	.15	.25	.45	.60	.80
Mall. Iron Clamps, 1 Hole	.....	.....	.....	.....	.....	.....	.....	.....	.....
P & S Conduit Clamps	.10	.14	.18	.20	.25	.....	.....	.....	.....
With Bolts-Series 1400	.....	.....	.....	.....	.....	.....	.....	.....	.....

(See Also Page PL-25)

COLORING & FROSTING LIQUID

	7 ounce	15 ounce	30 ounce	1/2 Pint	1 Pint	Quart
Crescent (McGill).....	Cans	Cans	Cans	Bottle	Bottle	Bottle
Cefco.....	\$2.50	\$4.00	\$7.50	\$1.25	\$2.50	\$5.00
Franco.....	.....	.....	.....	1.25	2.25	4.00
Permacolor.....	.....	.....	.....	1.65	3.00	5.00
Clips for Loom.....	.....	.....	.....	.....	.....	.....
Crowfoot.....	.....	.....	.....	.....	.....	.....

CORD & WIRE CONNECTORS

SMALL FIXTURE & WIRE CONNECTORS

Solderless
Insulated Solderless Wire or Fixture Connectors Similar to "Simplex"
"Wirenuts" "Mar" "NoTorch" "Wirelets" "Ideal" "Wiremold" Etc.—each \$1.10
Non-Insulated Solderless Wire Connectors—2 Screw—All Metal..... \$1.10

SET SCREW CONNECTORS

Round Brass

Wire Size	No.	No.	No.	No.	No.
12-14	10	8	6	4	4
Divided Wall—2 Screws.....	\$1.06	\$1.06	\$1.09	\$1.10	\$1.14
Hole Thru 4 ".....	.16	.12	.13	.18	.18
Hole Thru 4 ".....	.11	.13	.15	.17	.20
Wire Size	No.	No.	No.	No.	No.
2	2	1/0	2/0	3/0	4/0
Divided Wall—2 Screws.....	\$1.15	\$1.26	\$1.32	\$1.50	\$1.80
Hole Thru 4 ".....	.20	.24	.30	.45	.60
Hole Thru 4 ".....	.22	.28	.30	.45	.60

SOLDERLESS CONNECTORS

Dossert or Penn-Union

Size Cond.	No.	No.	No.	No.	No.	No.	No.
3 to 1 1/0	2/0	3/0	4/0	250,000	300,000	400,000	500,000
2 Way L's.....	\$0.75	\$0.80	\$1.00	\$1.20	\$1.40	\$1.65	\$2.50
Cable Taps.....	1.05	1.20	1.40	1.75	2.10	2.40	2.85
3 Ways & Y's.....	1.05	1.20	1.40	1.75	2.10	2.40	2.85
Lugs FB Ang.....	.55	.60	.70	.90	1.10	1.20	1.40
						1.85	2.40

CORD & MOTOR CONNECTORS

	No.	Price	No.	Price	No.	Price
Arrow						
Midget Comp. 8238		\$1.50				
" " Arrotez 8239		.75				
Motor Conn.						
RL-8221	.65		8221	\$1.45	RF	\$1.12
" " RL-8221	.60		8221	.45	RL	.20
" " RA-8222	.55		8222	.45	RA	.13
" " RM-8222	.65		8222	.45	RM	.25
" " TM-8222	.70		8222	.45	TM	.25
" " RH-8224	.90		8224	.60	RH	.35
" " RG-8281	.90		8281	.60	RG	.35
" " 8334 & 35	.90					
Bryant						
Motor Midget KR-130	.60		130	.45	KR	.20
" " Conn. KC-103	.70		103	.45	KC	.25
" " KT-130	.55		130	.45	KT	.15
GE						
Cord Connector 1346-1347	.90		1647	.45	6146	.50
Hubbell						
Cord Connector 5894	.80		5574	.55	5896	.30
" " 6116	.70		6118	.55	5964	.15
" " 6179	.75		6630	.55	6631	.20
" " 6180	.65		6630	.55	6181	.10
" " 5518	.80		5574	.55	5420	.25
" " 7083	1.35		7084	.85	7056	.55
" " 7090	1.80		7091	1.10	7092	.75
" " 6408	1.25		6409	.85	6149	.45
Weber						
Cord Connector 2274	.60		.74	.45	2200	.20
Wirt						
Cord Connector .56	.55					

NOTE: For Attachment Plugs and other caps—See Pages PL-16 & PL-17

E-SUNDRIES

EXTENSION CORDS—MADE UP

With Plug & Socket, but Guards-Lamps & Handles Extra

Length in Feet	Lamp Cord and Key Socket No. 18	With Reinforced Cord and Key Socket No. 16	With Artificial Silk Cord and Key Socket No. 18	Twist. or Paral. No. 16
4 Foot.....	\$1.50	\$1.90	\$1.95	\$1.90
6 ".....	.85	1.05	1.05	1.05
8 ".....	.90	1.10	1.15	1.10
10 ".....	.95	1.20	1.25	1.20
12 ".....	1.00	1.30	1.35	1.30
14 ".....	1.05	1.40	1.45	1.40
16 ".....	1.10	1.50	1.55	1.50
18 ".....	1.15	1.60	1.65	1.60
20 ".....	1.20	1.70	1.75	1.70
22 ".....	1.25	1.80	1.85	1.80
24 ".....	1.30	1.90	1.95	1.90
Length in Feet	Light No. 18	Light No. 16	Heavy No. 18	Heavy No. 16
4 Foot.....	\$1.10	\$1.25	\$1.30	\$1.40
6 ".....	1.30	1.50	1.60	1.70
8 ".....	1.50	1.75	1.90	2.00
10 ".....	1.70	2.00	2.20	2.30
12 ".....	1.90	2.25	2.50	2.60
14 ".....	2.10	2.50	2.80	2.90
16 ".....	2.30	2.75	3.10	3.20
18 ".....	2.50	3.00	3.40	3.50
20 ".....	2.70	3.25	3.70	3.80
22 ".....	2.90	3.50	4.00	4.10
24 ".....	3.10	3.75	4.30	4.40

ELBOWS & BENDS

For Rigid Conduit

	Size	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
Black.....		\$1.15	\$1.19	\$1.28	\$1.39	\$1.52	
Galv.....		.17	.22	.32	.43	.58	
	Size	2"	2 1/2"	3"	3 1/2"	4"	
Black.....		\$1.83	\$1.40	\$3.70	\$8.25	\$9.50	
Galv.....		.96	1.60	4.30	9.25	10.60	

EXPANSION SHIELDS & ANCHORS

Ackerman-Johnson—Dryvin—Star—Diamond—Cinch—Packtite or Similar

Size of Hole	These Prices Do Not Include Screws.	Inside Diameter	Takes Screw No.	Price Each
1/4"	1/4" to 1 1/4"	1/4"	5-6-7	\$1.05
3/8"	3/8" to 1 3/8"	3/8"	5-6-7	.06
1/2"	1/2" to 1 1/2"	1/2"	5-6-7	.06
5/8"	5/8" to 1 5/8"	5/8"	8-9-10-11	.06
3/4"	3/4" to 1 3/4"	3/4"	8-9-10-11	.06
7/8"	7/8" to 1 7/8"	7/8"	8-9-10-11	.06
1"	1" to 2"	1"	8-9-10-11	.09
1 1/8"	1 1/8" to 2 1/8"	1 1/8"	12-13-14	.09
1 1/4"	1 1/4" to 2 1/4"	1 1/4"	12-13-14	.11
1 1/2"	1 1/2" to 2 1/2"	1 1/2"	12-13-14	.11
1 3/4"	1 3/4" to 2 3/4"	1 3/4"	12-13-14	.11
2"	2" to 3"	2"	15 to 18	.11
2 1/4"	2 1/4" to 3 1/4"	2 1/4"	15 to 18	.14
2 1/2"	2 1/2" to 3 1/2"	2 1/2"	15 to 18	.14
2 3/4"	2 3/4" to 3 3/4"	2 3/4"	15 to 18	.11
3"	3" to 4"	3"	15 to 18	.20

LAG SCREW ANCHORS (Diamond or Similar)

Takes Lag Screw 3/4"	3/4"	3/4"	3/4"	3/4"
Price Without Lag Screw.....	\$1.14	\$1.14	\$1.17	\$1.24
Takes Lag Screw 1"	1"	1"	1"	1"
Price Without Lag Screw.....	\$1.42	\$1.62	\$1.90	\$1.05

FUSES

PLUG FUSES

Standard Plug Fuses—Any Make—\$.07 each or 5 for \$.25
(Some Manufacturers put these fuses up 4 in a box, in which case they should be retailed at 4 for \$.25.)

ENCLOSED FUSES, NON-RENEWABLE

Amps.	Non-Indicating		Indicating	
	Price Each	Fuse	Price Each	Fuse
1 to 30.....	\$1.10	\$1.30	\$1.20	\$1.40
35 to 60.....	.20	.40	.35	.65
70 to 100.....	.60	1.10	.95	1.75
110 to 200.....	1.20	1.85	1.85	2.90
225 to 400.....	2.15	4.10	3.35	6.35
450 to 600.....	4.10	6.00	6.35	9.25
650 to 800.....	8.95	11.00	13.85	17.35

RENEWABLE FUSES

Amps.	Fuses		Links	
	Price Each	Fuse	Price Each	Fuse
1 to 30.....	\$1.10	\$1.30	\$1.20	\$1.40
35 to 60.....	1.00	1.25	.05	.06
65 to 100.....	2.00	3.00	.10	.10
110 to 200.....	4.00	5.00	.15	.15
225 to 400.....	7.50	11.00	.30	.30
450 to 600.....	11.00	16.00	.60	.60

FUSE WIRE

FUSE WIRE							
Size in Amps.		1/4	3/8	1	2		
Price Per Pound		\$65.00	\$65.00	\$2.60	\$2.30		
Price Per Foot .....		.01	.01	.01	.01	
Size in Amps.		3	5	6	10	15	
Price Per Pound	\$1.95	\$1.50	\$1.60	\$1.30	\$1.30		
Price Per Foot .....	.01	.01 1/2	.02	.02 1/2	.03	
Size in Amps.		20	25	30	40	50	
Price Per Pound	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00		
Price Per Foot .....	.04	.05	.07	.08	.10	
Size in Amps.		60	70	75	80	90	100
Price Per Pound	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Price Per Foot15	.20	.21	.22	.24	.25	
Fuse Strip Any Amperage...\$1.00 per lb.							

Fuse Strip Any Amperage.....\$1.00 per lb.

OPEN LINK FUSES

Small Wire Type

Size in Amps.	1 to 30	35 to 60	65 to 100
Numbers.....	00-0-1-2-3	Amps. 2-3-5	Amps. 5
Price Each.....	\$1.10	\$1.14	\$1.20

Large Strip Type

Size in Amps.	25-100	110-300	325-400
Numbers.....	7	7 to 16	10 to 16
Price Each.....	\$1.20	\$1.30	\$1.60
Size in Amps.	425-600	600-800	800-1500
Numbers.....	10 to 16	25	40
Price Each.....	\$1.00	\$1.75	\$6.55

STAMPED SHEET METAL LINK FUSES

Type of Link.....	B	C	D	E-F-H-I-L-M
C to C Distance.....	1 1/2"	2 1/4"	2 3/4"	See Catalog
Price Each.....	\$1.11	\$1.11	\$1.16	\$1.30

THREADED CONDUIT FITTINGS

STANDARD TYPES, COVERS EXTRA

"Condulets" "Taplets" "Unilets" "Electrolets" "V. V."
"Adaptilets" Etc.

Form 7		1/2"	3/4"	1"	1 1/2"	1 3/4"
A		\$.33	\$.44	\$.60	\$.87	\$ 1.12
B		.40	.50	.70	1.00	1.30
C		.50	.57	.83	1.32	1.71
CO-COV		.70	.91	1.05	1.75	2.25
F		.40	.50	.70	1.12	1.46
For Special Form 6 Entrance Fittings See PL-13.						
F	Form 7	.70	1.12	1.75	3.08	4.46
LB-LF-LR-LR-LBB		.56	.63	.91	1.47	1.96
LFB-LLB-LRB		.66	.63	.91	1.47	1.96
LBL-LBR-LW		.91	1.12	1.33	1.75	2.80
T All One Size		.67	.80	1.12	1.71	2.37
TA All One Size		.98	1.05	1.40	2.18	3.22
TB-TL-TR		.68	.81	1.12	1.71	2.38
U-UB		.68	.75	1.10	1.76	2.35
X All One Size		.84	1.09	1.47	1.96	2.50
Gaskets		.14	.14	.21	.28	.36
Reducers		.21	.21	.28	.42	.56
Connectors		.40	.42	.40	1.54	1.96
		1.05	1.12	1.40	.90	.30

	Form 7	2"	2½"	3"	3½"	4"
A B		\$2.32	\$5.46	\$ 6.50	\$10.60	\$11.70
C		3.65	5.46	7.30	9.10	16.65
CO		3.40	6.24	8.10	11.70	14.30
CO-COV		4.45	6.75	10.27	16.38	17.95
E		3.00	5.46	6.50	10.60	11.70
F						
F	Form 7	7.00	10.66	13.26	23.53	32.50
LB-LF-LL-LR-LBB		3.50	6.50	8.45	13.65	15.60
LFB-LLB-LRB		3.50	6.50	8.45	13.65	15.60
LBL-LBR-LW		3.72	8.52	.....	.....	.....
T All One Size		3.58	6.50	9.75	14.30	16.90
TA All One Size		5.53	.....	.....	.....	.....
TB-TL-TR		3.58	6.50	9.75	14.30	16.90
U-UR		7.20	7.80	10.15	16.38	18.00
X All One Size		4.90	7.80	13.00	16.90	20.80
Gaskets		.35	.52	.52	.65	.65
Reducers		.70	1.30	1.76	2.60	3.58
Connectors		3.01	.....	.....	.....	.....
Unions		8.10	.....	.....	.....	.....

COVERS

		$\frac{1}{8}$ "	$\frac{3}{8}$ "	1"	$1\frac{1}{2}$ "
Porcelain Covers with Holes.....	\$.14	\$.21	\$.35	\$.51	
Composition " " .....	.28	.42	.70	1.40	
" Blank .....	.42	.56	.84	1.54	
Porcelain " For Drop Cord .....	.49	.56	..	..
" Weatherproof .....	.22	.35	..	..
Metal Covers Blank Sheet Steel .....	.12	.16	.33	.45	
" " Cast Iron .....	.21	.31	.49	.70	
" " with $\frac{1}{4}$ " Nipple .....	.35	.50	.84	1.25	
" " " $\frac{3}{8}$" .....	.33	.40	.54	..	
" " " $\frac{1}{2}$" .....	.35	.42	.56	..	
Porcelain Covers with Holes.....	\$.67	\$.84	$2\frac{1}{2}$ & 3"	$3\frac{1}{2}$ & 4"	
Composition " "	1.55	1.68	\$1.12	\$1.20	
" Blank	1.68	1.96	4.40	6.30	
Porcelain " For Drop Cord .....	..	..	..	..
" Weatherproof .....	..	..	..	..
Metal Covers Blank Sheet Steel .....	.63	.79	1.03	1.12	
" " Cast Iron .....	.98	1.26	1.61	1.75	
" " with $\frac{1}{4}$ " Nipple .....	..	..	..	..
" " " $\frac{3}{8}$" .....	..	..	..	..
" " " $\frac{1}{2}$" .....	..	..	..	..

RECEPTACLES & ROSETTES

For Above

Plug Receptacles	10 Amp.	2 Pole	250 Watt.	\$ ³⁶ / ₁₀₀	\$ ³⁶ / ₁₀₀	\$ ⁷⁰ / ₁₀₀
..	15	2	125	..	..	..
..	20	2	250	..	..	..
..	10	3	250	..	..	..
..	15	3	125	..	..	..
..	20	3	250	..	..	..
Lamp Receptacle	660 Watt	with Shade Holder	..	..	1.12	..
Cord Rosette	..	..	..	..	..	..

FS SERIES FOR FLUSH DEVICES
Shallow Type Without Covers, Any Make

No. Gangs	No. Pipe Outlets	Series	1/4"	3/8"	1"
Single Gang	One	FS-FSL	\$.01	\$1.05	\$1.10
"	Two	FS-FSL-FSR- FSLA-FSS-FSAA	1.05	1.26	1.54
"	Three	FSCA-FSCC- FSCF-FST	1.40	1.75	2.03
"	Four	FSX-FSCD	1.68	2.10	2.36
Two Gang	One	FS-FS	1.68	1.90	1.90
"	Two	FSC-FSS	1.82	1.96	2.17
"	Three	FSD	2.03	2.17	2.31

FS SERIES FOR FLUSH DEVICES—Continued

No. Gangs	No. Pipe Outlets	Series	1/4"	3/8"	1"
2 Gang Tandem	One	FS	2.81	2.45	2.06
"	Two	FSC	2.45	2.39	2.06
Three Gang	Two	FS-FSA	.....	2.52	2.73
"	Two	FSC	.....	2.66	2.87
"	Four	FSD	2.73	3.01	3.32
Four Gang	One	FS-FSA	.....	3.08	3.36
"	Two	FSC-FSSE	.....	3.50	3.80
"	Five	FSD	3.44	4.00	4.24

COVERS FOR FS FITTINGS

[illegible]

COMBINATION COVERS FOR FS SERIES

2 Gang for One Switch and one Sgle. or Duplex Receptacle.....	\$.70
2 " " " " " Bull's Eye with Jewel	1.75
2 " " " " " One lift cover Receptacle	1.00

NOTE: Although our prices on conduit fittings apply to all makes we use Crouse-Hinds' numbers and lists for convenience.

G & H WITHOUT ADJUSTABLE BAR

Type Crouse Hinds or Similar	5 Amp.			10 Amp.		
	3/4"	3/4"	1"	3/4"	3/4"	1"
GL.....	\$.66	\$.70	\$1.05	\$.70	\$.91	\$1.19
GL.....	.63	.77	1.12	.77	.98	1.28
GA-GLA-GT.....	.84	.98	1.33	.98	1.19	1.50
GTA-GX-GXA.....	1.05	1.19	1.66	1.19	1.40	1.82
H.....	.43	.56	.91	.56	.77	1.04
HA.....	.63	.68	.98	.68	.84	1.15
HH.....	.56	.70	1.05	.70	.91	1.19
HHC.....	.84	.98	1.33	.98	1.19	1.50
HLA.....	.63	.77	1.12	.77	.98	1.28

G & H WITH ADJUSTABLE BAR

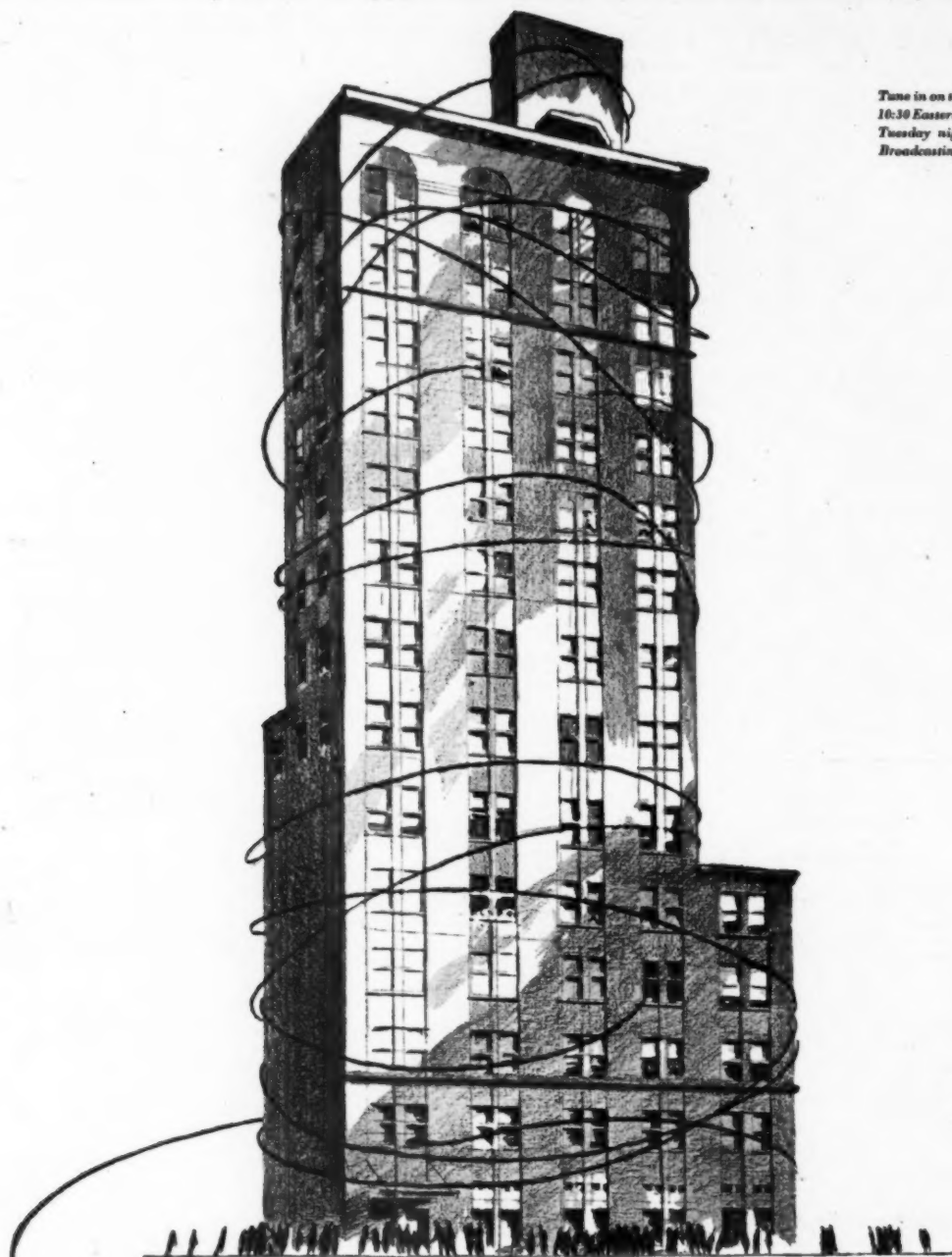
Type Crouse Hinds or Similar	3 Amp.			10 Amp.		
	3/4"	3/4"	1"	3/4"	3/4"	1"
G.....	\$.77	\$.91	\$ 1.26	\$.91	\$ 1.12	\$ 1.40
GL.....	.84	.98	1.33	.98	1.19	1.50
GA-GLA-GT.....	1.05	1.19	1.54	1.19	1.19	1.68
GTA-GX.....	1.26	1.40	1.89	1.40	1.61	2.03
GXA.....	1.50	1.71	2.17	1.71	1.82	2.31
H.....	.63	.77	1.12	.77	.98	1.26
HL.....	.70	.84	1.19	.84	1.05	1.33
HV.....	.91	.91	1.46	.91	1.19	1.46
HHC.....	1.05	1.19	1.54	1.19	1.19	1.68
HLC.....	.84	.98	1.26	.98	1.19	1.50

COVERS FOR G & H SERIES

Description	For G & H Fittings Without Adjustable Bar		For G & H Fittings With Adjustable Bar 5 & 10	
	5 Amp.	10 Amp.	20 Amp.	Amp. 20
Porcelain Cover with Wire Holes . . .	\$.28	\$.35	\$.56	\$.71
Blank Sheet Steel Cover . . .	.21	.28	.35	.42
" " Cast " " " "	.35	.42	.56	.28
Sheet Steel with 1/4" Brass Nipple . . .	.35	.42	.49	.28
" " " " " " " "	.42	.49	.56	.35
" " " " " " " "	.50	.56	.63	.42
" " " " " " " "	.56	.63	.70	.50
Receptacle Covers No Shadeholder . . .	.70	.70	.....	.....
" " " " With " " " "	1.12	.....	.....	.....

DEVICES FOR G & H SERIES

[illegible]



Tune in on the Graybar Hour, 10 to 10:30 Eastern Standard Time, every Tuesday night Columbia Broadcasting System.

how a little wire can tie up a lot
(...and why it shouldn't)...

It doesn't take much defective wire to tie up the biggest building—as every contractor knows. And tie-ups can be mighty expensive! . . . Careful contractors best serve their clients by installing only quality materials . . . The electrical contractor knows that it is sometimes difficult to identify quality—when good, bad, and indifferent supplies look so much alike? . . . But he knows, too, that one sure guide is the reputation and experience of the supplier . . . Graybar's record as supplier is the history of quality electrical construction in America from the beginning.

OFFICES IN 76 PRINCIPAL CITIES.

EXECUTIVE OFFICES: GRAYBAR BLDG., NEW YORK, N. Y.

GraybaR

*Every
joint is
safely*
PROTECTED



with

G-E RUBBER TAPE



G-E
*Insulating Materials
for Every Purpose*

Varnishes, Oils, Shellacs,
Paints.

Filling and Sealing
Compounds.

Varnished Cloths and
Tapes.

Insulating Papers.

Core Solder and Fluxes.

Cords and Twines.

HIGHLY insulating, waterproof, tough and long-lived—G-E Rubber Tapes ably sustain the General Electric reputation for quality . . . and *your* reputation for good workmanship.

There's a tape for every joint—exposed, shielded, underground.

G-E Splicing Gum (No. 363), a pure para rubber compound containing no cloth, winds on a joint in a solid, watertight mass, sealed by the heat of the hand. It will not oxidize copper.

G-E Gum-Faced Tape (No. 374) carries a layer of 98 per cent pure para rubber on a backing of unvulcanized, high-grade para rubber compound. It offers extremely high insulation resistance and is absolutely waterproof. It's a good substitute for sheet rubber, and *strong!*

Write to Section M-295, Merchandise Department, General Electric Company, Bridgeport, Connecticut, for descriptive data on the complete G-E line of rubber and splicing tapes.

GENERAL  **ELECTRIC** 
INSULATING MATERIALS

MERCHANDISE DEPARTMENT

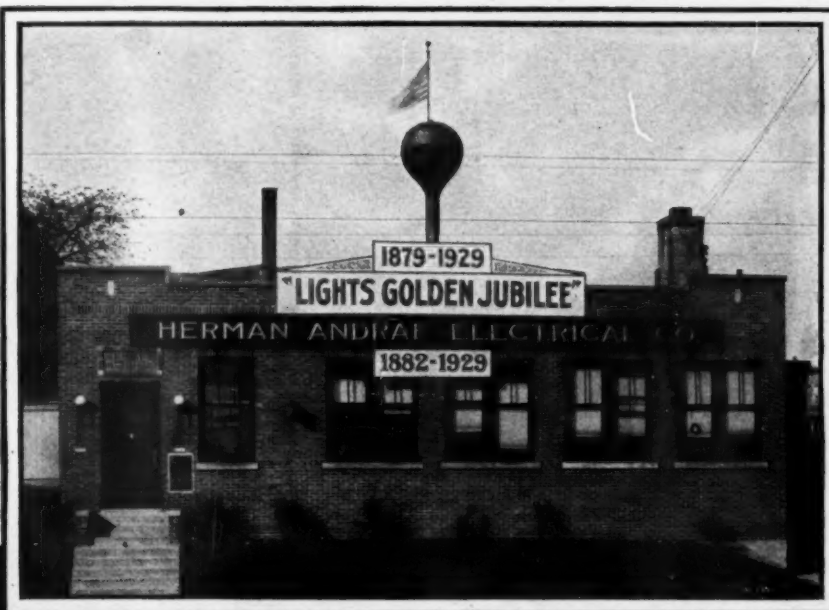
• GENERAL ELECTRIC COMPANY

• BRIDGEPORT, CONNECTICUT

"GIVING EXTRA HELP—Builds Business!"...



Mr. Herman Andrae, President and Treasurer, is the founder of the Company. Since 1882 he has kept step with the growth of the electrical industry from its very introduction. Assisting him now as general manager is his son Mr. George Andrae. Associated with them are four men whose combined service with the Company totals 100 years. These men are: Mr. Jack Tellier—40 years; Mr. A. S. Tellier—30 years; Mr. Walter Schwarz—18 years and Mr. A. C. Bocher—12 years.



"Forty-seven years of service to the community"—a record to be proud of—is back of the Herman Andrae Electrical Co. of Milwaukee. In 1882 when mechanical pull bells were beginning to be replaced by "new fangled electrical contraptions", Andrae started in business. Year by year their growth since then has been parallel with the growth of the electrical industry.

"THE days of 'by-guess' and 'by-gosh' in the electrical business are gone forever", says Mr. George Andrae, Vice-President and General Manager of the Herman Andrae Electrical Co., one of the pioneers and leaders in the electrical contracting business in Milwaukee.

"Great changes have taken place in the past ten years", he continues, "methods of wiring, code practice, new devices, etc., all help us to do a better job. But, we find one of the chief factors in building our business has been to study in advance the needs of our customers. Then we can recommend intelligently the kind of installation we know will give efficient performance and customer satisfaction. We make it a practice to give

our customers reserve capacity in feeders, number of circuits, adequate number of switches, receptacles, etc., because we know from experience there are always places where we can make wiring improvements.

"As a result, we have been doing much of the larger building work in this territory." (A long list of prominent residences, public buildings and industrial plants stand to the credit of the Andrae policy of using their experience to help their customers in matters of electrical wiring installations.) "This has given us a nice amount of this kind of business and at the same time is a service our customers appreciate and are willing to pay for."

Since 1882 the Herman Andrae

UNASKED FOR UNEXPECTED

Says Milwaukee's "Live Wire"

Electrical Contractor

Electrical Co. has carried on its ideals of service to the customer. Now, even more than back in the old "house-wiring days", do they find the need of co-operation with the builder most essential. Naturally they have given serious consideration to the quality of materials they use, for their slogan "Buildings that last must have wiring that lasts" implies that only the best in workmanship and wiring materials goes into every job. It is significant that the Herman Andrae Electrical Co. uses Cutler-Hammer Wiring Devices, as do many of the leading electrical contractors throughout the country.

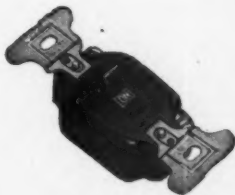
In giving architects and builders this "extra service", the progressive electrical contractor gains new business and insures his old. How necessary, therefore, to hold this good will by installing high quality wiring devices such as you find in the Cutler-Hammer Line. You can secure C-H Devices for all requirements from reliable wholesalers.

CUTLER-HAMMER, Inc.

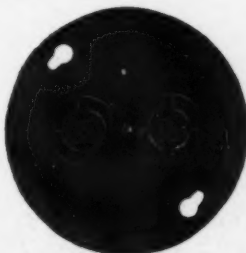
Pioneer Manufacturers of Electrical Apparatus
1258 St. Paul Avenue
MILWAUKEE • WISCONSIN



Mr. Herman Andrae, President, (seated) and Mr. George Andrae, General Manager, discuss new means of improving a customer's wiring plans—thereby carrying out their policy of giving every client "extra service" as a means of building satisfaction and good will with every job. Mr. George Andrae is a member of the State Code Board and has taken an active part in establishing improved code conditions for Wisconsin.



C-H Catalog 7281 "Rubber-Mounted" Toggle Switch. The mechanism—"full-floating" on two resilient rubber cushions—is extremely simple. No screws, and but one rivet. No metal connections to transmit sound. Short, stubby contact blades are heavy to prevent "bounce" and pitting. Heat-proof, crack-proof Thermoplas case protects mechanism from all foreign material. Single-pole, double-pole, 3-way and 4-way types. Approved by Underwriters.



C-H Catalog 7921 Outlet Box Receptacles are ideal for garage and similar installations. The duplex type particularly furnishes double convenience for trouble light, battery charger, etc. Included are the same one-piece, double grip, smooth-plugging contacts and other features found in the famous C-H 7920 standard receptacle. Single type has 3 1/4 or 4 inch steel box cover plate. Duplex has 4 inch plate. Approved by the Underwriters.



C-H Catalog 7261 Toggle Flush Switches handle all lamps, including gas-filled bulbs. Built shallow, they are convenient to install in any standard box. Made in single-pole, double-pole, 3-way and 4-way types. Approved by Underwriters.

CUTLER HAMMER

MODERN WIRING  NECESSITIES

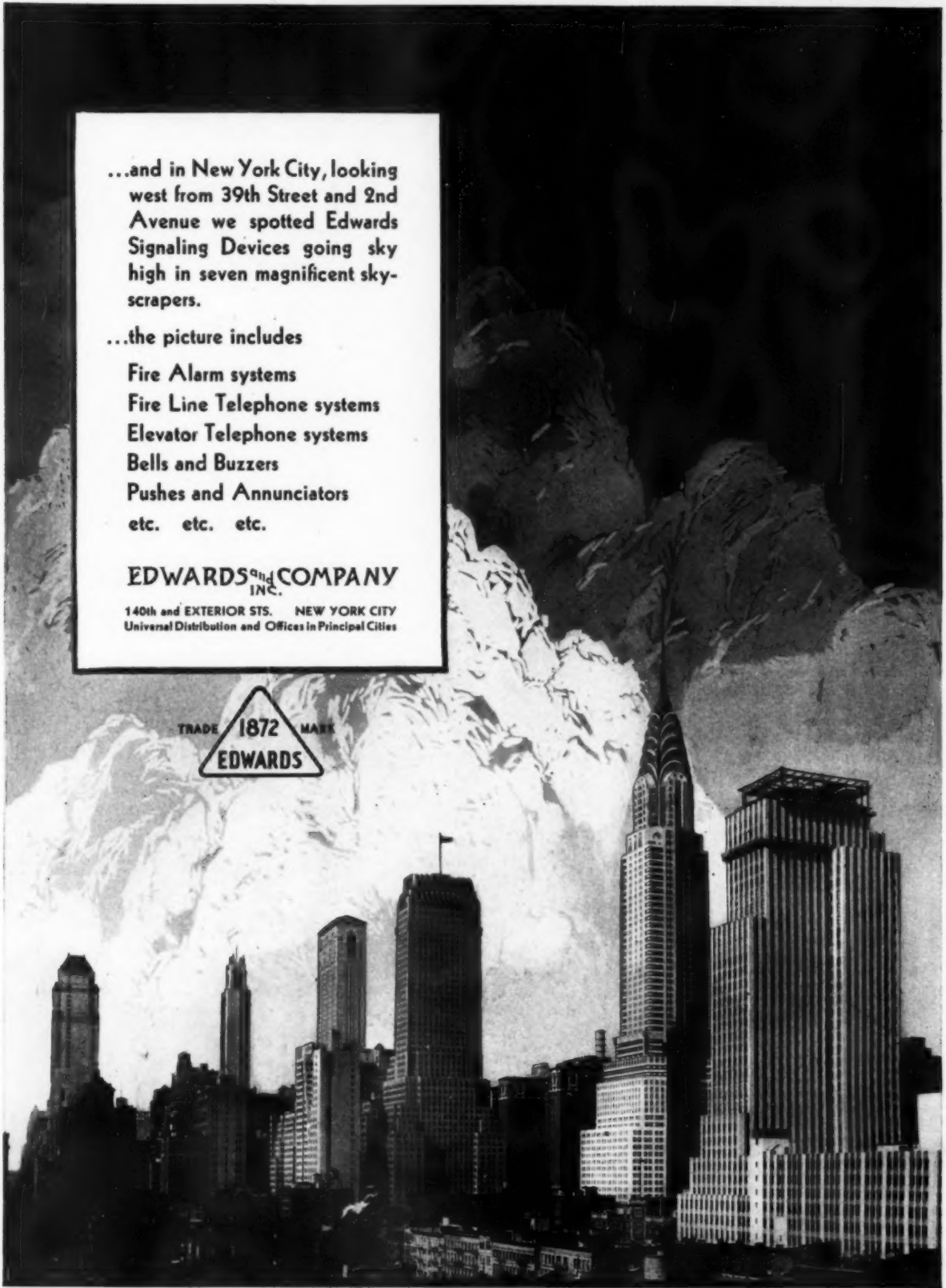
...and in New York City, looking west from 39th Street and 2nd Avenue we spotted Edwards Signaling Devices going sky high in seven magnificent skyscrapers.

...the picture includes

Fire Alarm systems
Fire Line Telephone systems
Elevator Telephone systems
Bells and Buzzers
Pushes and Annunciators
etc. etc. etc.

EDWARDS^{and} COMPANY
INC.

140th and EXTERIOR STS. NEW YORK CITY
Universal Distribution and Offices in Principal Cities



10 East 40th St. Lefcourt Colonial Bldg. Lincoln Bldg. Chanin Bldg. Commodore Hotel Chrysler Bldg. Daily News Bldg.

A NEW TORK CLOCK

"for turning electric lights on and off regularly"



"TYPE H"
8-DAY
CENTER WIND

INTERCHANGEABILITY

No. 18H Time Motor has "ON" arm in front in response to your demand. For old style Tork Clocks [No. 115, 130, etc.] order No. 18HO Time Motor.

With a new movement—
all cut-wheels and cut-pinions

All dial settings and regulation without tools and without removing dial. Center wind. Seven turns per week. Great simplicity, extra power, new high quality.

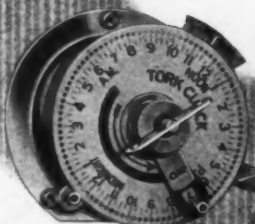
A new switch mounting—
to insure perfect alignment

New switch mounting plate holds the Time Motor and is part of the switch construction. It means positive alignment between the switch levers and the dial. Quickly demountable.



ALSO

Radio Corrected Time Systems with uniform control of Clocks, Program Instruments, and Time Switches. Motor Wound Astronomical Dial Time Switches with 15 jewelled movements for turning ON at sunset and OFF at sunrise, and other combinations as desired.



No. 18H
Time Motor



Switch
for
No. 115H

The new Type H Tork Clocks are the finest time switches ever offered at a low price. In addition to the improvements mentioned above, notice the doubly increased wiring space and the ease with which the entire assembly may be removed for the convenient connection of conduits. The outdoor type has a cast aluminum weather-proof case.

Install Type H Tork Clocks on any time switch job where dependable service, low initial cost and low upkeep are desired.

Tork Clock Wholesale Distributors in 100 cities can supply you. The Type H line is described in detail in bulletin No. 30031. It will be sent upon request.

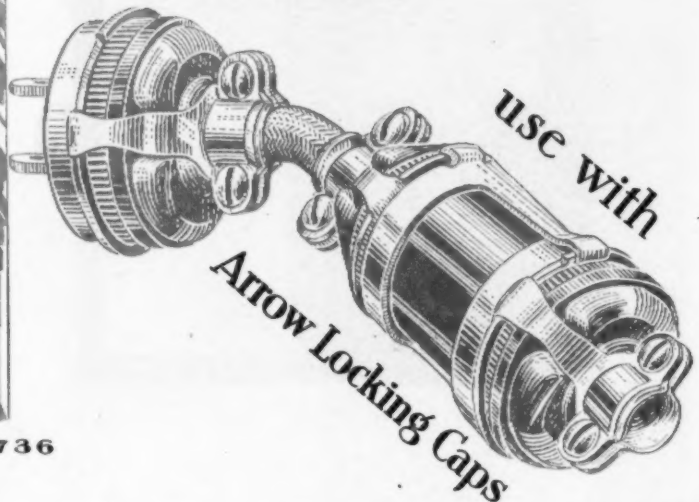
TORK CLOCKS, Inc. • 12 East 41st Street • New York, N. Y.

Put New **ARROW** Locking Rings on Single **RECEPTACLE PLATES**

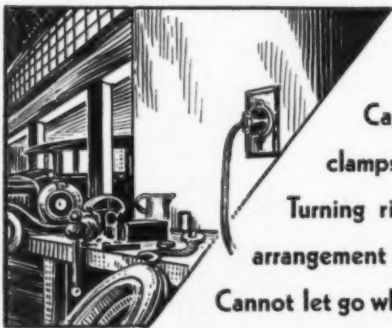
SCREWS on to any
Single Convenience
Outlet Plate . . .



NO. 7736



Prevents Plugs from Pulling Out

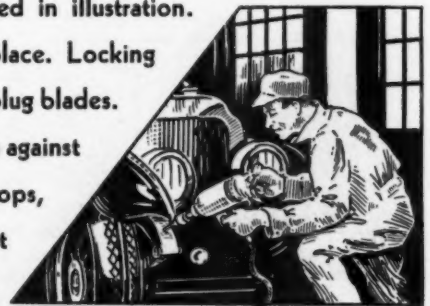


Converts your regular Convenience Outlet into a locking device, when used with ARROW Locking Attachment Plug

Caps "RE" and "TE" . . . Plug is inserted with locking clamps in release position — indicated in illustration.

Turning ring to right locks plug into place. Locking arrangement is positive and independent of plug blades.

Cannot let go when plug is twisted . . . Holds firm against pulls from portable tools in garages, machine shops, industrial plants. "With "ARROLOCK" Double T-Slot Connector you complete the hook-up for all shop needs."



ARROW ELECTRIC DIVISION

THE ARROW - HART & HEGEMAN ELECTRIC CO.

HARTFORD, CONN.

Announcing

A New Line of No-Thread Unilets

for use with

Steeltubes

—Thin Wall Conduit



New contracting sleeve for use with Steeltubes—Thin Wall Conduit.



(Patent applied for)

An announcement of unusual interest to the electrical industry is the introduction of a new line of Appleton No-Thread Malleable Unilets for use with Steeltubes—Thin Wall Conduit.

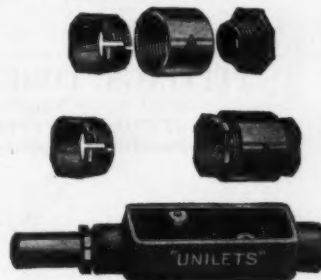
The new No-Thread Malleable Unilets are furnished with a new contracting sleeve which grips the Thin Wall Conduit firmly. This meets an important need in the industry for use with the ever increasing popular Steeltubes.

These new Unilets can be shipped from stock simply by specifying catalogue numbers applying to the No-Thread Unilets and adding the letter T. For example, 90N02T.

If you have No-Thread Unilets in stock you can adapt these to Thin Wall Conduit by ordering the new contracting sleeve for $\frac{1}{2}$ to 1-inch conduit inclusive.

Threaded Unilets with Steeltubes

We also furnish the No-Thread Adapter for Steeltubes which practically makes a No-Thread fitting out of the Threaded type Unilet or any threaded conduit fitting. No-Thread Couplings and No-Thread Connectors have also been designed to take the thin wall conduit.



SOLD THROUGH JOBBERS

APPLETON ELECTRIC COMPANY
1704 Wellington Ave., Chicago, U.S.A.

New York—150 Varick St.

Los Angeles—340 Azusa St.

San Francisco—655 Minna St.

Seattle—628 Railroad Ave.

Appleton No-Thread Unilets are listed as Standard by Underwriters' Laboratories in $\frac{1}{4}$ -inch to 4-inch sizes, inclusive.

APPLETON

No-Thread Malleable UNILETS

The Original Threadless Conduit Fittings

APPLETON ELECTRIC COMPANY
1704 Wellington Avenue, Chicago
Gentlemen:

Please send us a copy of New Revised Catalog on Unilets and Conduit Fittings, together with prices.

Name

Address

City..... State.....



Fittings, Conduit

	1/2"	3/4"	1"
A-JB-JU.....	\$.84	\$1.05	\$1.50
L.....	.98	1.19	1.60
L.....	1.19	1.33	1.90
T.....	1.33	1.50	1.61
X.....	1.50	1.61	1.81
K.....	.70	.91	1.31
KA-KB-KC-KD.....	.84	1.05	1.50

Lamp Receptacle S. H. Groove.....	\$.63
" " No S. H. Groove.....	.66
Plug Receptacle 10 & 15 Amp.....	.70
" " 20 " "91
" " 10 " " 3-wire.....	.08
Cord Rosette.....	.49
Blank Cast Cover.....	.42

Crouse-Hinds or Similar

Prices include Globe & Gull

		Form 75	
		1/2"	1"
V-VA & VDA	as above	\$5.85	\$5.92
VC & VL	" "	5.98	6.11
VT-VD & VE	" "	6.17	6.24
VX	" "	6.50	6.76
VF	" "	6.37	6.50
VD & VJ	" "	6.70	7.00

		Form 200	
		1/2"	1"
V-VA & VDA	as above	\$7.02	\$7.09
VC & VL	" "	7.15	7.28
VT-VD & VE	" "	7.28	7.50
VX	" "	7.41	7.67
VF	" "	7.47	7.60
VD & VJ	" "	7.67	7.93

	Form 75	Form 200
Globes only, clear glass	\$1.12	\$1.12
" " opal	1.54	2.38
" " green blue	2.38	3.30
" " ruby	3.30	4.06
Guards Cast Aluminum	2.52	3.15
Half Shades	1.68	2.45
Receptacle with Gasket56	.56
Reflector Holders Cast Aluminum70	.91
Adaptor	1.05	1.26

(Page 56, Crouse Hinds Cat. 2200 or Similar)

(See 56, Crouse Hinds Cat. 2200 or Similar)			
Pendant or Bracket Fixture with Recept. Globe and Guard Form	75....	\$7.93	
	200....	8.84	

STANDARD TYPES
"Kondu" Crouse-Hinds "Appleton" or Similar

Types	Without Covers	14"	14"	1"	14"
A.	\$.46	\$.62	\$.84	\$1.26
B.53	.70	.95	1.47
BE95	1.23	1.79	2.74
C.74	.94	1.33	2.03
CB	1.04	1.34	1.86	2.80
D.74	.94	1.29	2.03
E.53	.67	.94	1.48
LB-LF-LL-LR.81	.98	1.40	2.17
SE.	1.01	1.09	1.71	2.66
T-FL-TR.	1.84	1.34	1.85	2.80
TB.	1.17	1.82	2.38	3.64
U & UB.91	1.12	1.54	2.52
X.	1.33	1.82	2.45	3.43
XB.	2.03	2.52	3.29	.....
LBL-LBR-LU.	1.26	1.68	2.31	.....

	14"	2"	24"	3"
A.	\$1.01	\$3.15	\$ 6.65	\$ 8.10
B.	1.90	3.85	6.65	8.10
BE	3.64	6.30	11.70	13.30
C.	2.66	5.11	8.55	11.15
CB	3.85	6.16	9.90	14.30
D.	2.66	5.11	8.55	11.15
E.	1.90	3.85	6.65	8.00
LB-LF-LL-LR.	2.94	5.15	13.90	13.60
SE.	3.99	7.00	11.85	14.85
T-FL-TR.	3.85	6.16	9.90	14.40
TB.	5.18	9.00	.....	.....
U & UB.	3.29	6.00	10.10	13.20
X.	4.48	8.33	12.35	19.15
XB.	.....	.....	.....	.....

H Couplings.....	\$.32	\$.48	\$.83	\$1.17
KO Box Connector.....	.20	.29	.67	1.34
NO ".....	.24	.31	.66	.84
SCA Cable Connector.....	.13	.17	.24	.33
SLP Short Elbow.....	.39	.52	1.06	.83
KOL Box Connector.....	.49	.67	.98	1.54
KOR Reducer.....	.58	.63		
H Couplings.....	\$1.54	\$3.21	\$4.00	\$6.37
KO Box Connector.....				
NO ".....	1.18	2.49	3.28	4.36
SCA Cable Connector.....				
SLP Short Elbow.....	2.23	2.66		
KOL Box Connector.....	2.07	4.20		
KOR Reducer.....				

	1/4"	3/8"	1"	1 1/2"
Blank Metal.....	\$.12	\$.10	\$.32	\$.48
Rubber Gasket.....	.14	.14	.22	.38
Metal, 1/4 Nip.....	.28	.35	.49	.65
" " " ".....	.32	.40	.54	.69
" " " ".....	.35	.42	.56	.72
" " " ".....	.42	.49	.63	.79
Porcelain with Holes.....	.14	.21	.35	.50
Metal, Cord Grip.....	.28	.35	.49	..
	1 1/2"	2"	2 1/2"	3"
Blank Metal.....	\$.63	\$.79	\$ 1.05	\$ 1.05
Rubber Gasket.....	.28	.50	.84	.84
Metal, 1/4 Nip.....	.62
" " " ".....	.86
" " " ".....	.88
" " " ".....	.96
Porcelain with Holes.....	.68	.84	1.12	1.12
Metal, Cord Grip.....

Lamp Recept. without Shade Holder Groove PR....	3/8"	\$3.35	3/4"	\$4.42	1"	\$4.96
" " " " " " " " " " " " " " " " " " " "		.42		.49		.56
Porcelain for Weatherproof Socket WP2.....		.36				
Polarity Plug Receptacle 10 Amp. P.....		.56		.63		.70
" " " " " " " " " " " " " " " " " " " "				.70		.78
			Sgle.	Dble.	3	
Snap Switch 5 Amp. 125 Volt Non Indicating....		\$.70	Pole		Pole	
" " " " " " " " " " " " " " " " " " " "		.77				
" " " " " " " " " " " " " " " " " " " "		1.12		\$1.47		1.47
" " " " " " " " " " " " " " " " " " " "		1.26		1.68		

Any Make

Type	Any Male			2 Gang		
	1/4"	1/2"	1"	1/4"	1/2"	1"
FSE-FSB.....	\$1.05	\$1.26	\$1.40	\$1.82	\$2.03	\$2.24
FSC-L & R.....	1.33	1.61	1.83	2.10	2.31	2.66
FST.....	1.75	2.31	2.73	.....	.....	.....
FSU.....	1.26	1.61	2.03	.....	.....	.....
FSD.....	1.75	2.31	2.73	2.38	2.73	3.03

Type	3 Gang			4 Gang		
	1/4"	1/2"	1"	1/4"	1/2"	1"
FSE-FSB.....	\$2.73	\$3.01	.....	\$3.36	\$3.64
FSC-L & R.....	3.08	3.36	.....	3.71	3.96
FST.....
FSU.....
FSD.....	\$3.22	3.57	3.85	\$4.27	.....	.....

	One Gang	2 Gang
Blank Metal Plate.....	\$.37	\$.70
Receptacle Plate.....	.28	.38
Toggle or Push Button Switch Plate.....	.36	

Type	5 Amp.		10 Amp.		
	$\frac{3}{4}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	$\frac{5}{8}$ "	1"
OA	\$.68	\$.64	\$.77	\$1.05	\$1.34
OB	.91	1.05	.91	1.26	1.56
OC	1.19	1.54	1.33	1.75	2.20
OEB	.56	.77	.70	.98	1.28
OE	.91	1.12	1.05	1.33	1.71
OEL	.91	1.12	1.05	1.33	1.71
OLB	1.19	1.54	1.33	1.75	2.20
OT	1.19	1.54	1.33	1.75	2.20
OTB	1.54	1.96	1.68	2.10	2.60
OU	.91	1.12	.91	1.26	1.56
OUE	1.19	1.54	1.33	1.75	2.20
OX	1.54	1.96	1.68	2.10	2.60
OXB	1.89	2.31	2.03	2.52	3.30

	5	10	20
	Amp.	Amp.	Amp.
Blank Metal Cover, Round.....	\$.21	\$.28	\$.33
Porcelain Can, Round with holes.....	.21	.35	.46
Metal Cover with 3/4 or 6 Cord Grip.....	.35	.42	.49
Blank Metal Cover with 1 male & female nipple.....	.42	.45	.47
" " " " " " " " " " " " " " " "	.42	.49	.55
" " " " " " " " " " " " " " " "	.49	.56	.63
" " " " " " " " " " " " " " " "	.56	.63	.70
Rubber Gaskets.....	.12	.14	.16
Lamp Receptacles Porcelain Edison Amp.....	.12	.49	..
Composition T Slot.....	.84

ROUND "ADAPTI" BOXES

Series Numbers	Style	1½"	1¾"	2"
No. 2900 to 2903	1 Back Outlet	\$1.10		
No. 3000 to 3005	1 Side Outlet		\$2.00	\$2.70
No. 3100 to 3105	" " "	1.10	1.80	2.40
No. 3100T & 3101T Thrls.	" " "			
No. 3170 to 3175	" " "	1.15	1.85	2.45
No. 3200 & 3205	2 " "	1.25	2.13	2.70
No. 3200T & 3201T Thrls.	" " "			
No. 3270 to 3275	" " "			
No. 32170 to 32175	" " "	1.34	2.20	2.80
No. 3300 to 3305	3 " "	1.96	2.68	3.00
No. 3300T to 3305T Thrls.	" " "			
No. 33170 to 33175	" " "	1.70	2.75	3.10
No. 3400 to 3405	4 " "	1.87	2.90	3.35
No. 3500 to 3705	2 " "	1.40	2.25	3.35
No. 3800 to 3805	" " "	1.35	2.40	3.35
No. 3900 to 4105	3 " "	1.55	2.90	4.00
No. 4800 to 5005	4 " "	1.95	3.55	4.70

Series No.	Description	1 1/2"	1 3/4"	1 5/8"
500-501-502	Base Only	\$.37	\$.37	\$.54
600X-501X	Extension Ring	.27	.27	.40
501A	Base Concealed to Expd.	.67	.67	.67
0500	" with Tapped Boss	.34	.34
810 to 512	Base	.40	.40	.80
820 to 522	"	.27	.27	.52
830	"	1.80	1.80
540 to 542	"	.27	.27	.52
30 to 35	Metal Side Plates	.14	.14	.20
40 to 42	Insulated Side Plates	.16	.16	.24
50 to 54	Arm'd. Flex. Side Plates	.34	.43	.52
60 to 65	Angle Outlet	.16	.24	.43
70 to 75	Elbow Outlet	.24	.30	.50
90 to 93	Connecting Outlet	.34	.34
100 & 101	Straight for No. 500 Base	.16	.24
110 to 113	" " No. 501 "	.28	.34	.43
120 to 125	" " No. 502 "	.47	.53	.67
130 to 135	" " No. 503 "	1.08	1.33	1.60
140 to 145	" " No. 504 "	2.67	3.08	3.48
300 & 301	Threadless Outlet	.20	.20
310 & 311	"	.34	.40
Series No.	Description	1 1/2"	1 3/4"	2"
500-501-502	Base Only	\$.54	\$1.08	\$1.08
600X-501X	Extension Ring	.40
501A	Base Concealed to Expd.	.67
0500	" with Tapped Boss
810 to 512	Base	.60	1.60	1.60
820 to 522	"	.52	1.08	1.08
830	"	.52	1.08	1.08
540 to 542	"	.52	1.08	1.08
30 to 35	Metal Side Plates	.20	.38	.38
40 to 42	Insulated Side Plates	.34	.67	.67
50 to 54	Arm'd. Flex. Side Plates	.67
60 to 65	Angle Outlet	.48	.94	1.08
70 to 75	Elbow Outlet	1.35	1.14	1.14
90 to 93	Connecting Outlet
100 & 101	Straight for No. 500 Base
110 to 113	" " No. 501 "	.4847
120 to 125	" " No. 502 "	.80	.94	1.07
130 to 135	" " No. 503 "	1.88	2.14	2.40
140 to 145	" " No. 504 "	3.87	4.28	4.67
300 & 301	Threadless Outlet
310 & 311	"

Numbers	Description	Price
1	Porcelain One Hole Cover.....	\$.18
2	Metal For Devices.....	.30
3	Porcelain One Hole Cover.....	.30
4	Porcelain.....	.22
5 & 6	Porcelain with $\frac{1}{4}$ " Male or Female Nipple.....	.38
9 & 10	Maleable with $\frac{1}{4}$ " Male or Female Nipple.....	.30
11 & 12	Maleable with $\frac{1}{2}$ " " " " " " "	.38

NOTE: For "Adapti" Entrance Fittings See Page PL-13.

Crouse Hinds—Appleton & Similar

Fitting No. GCA-12 For 1/2" Conduit Without Soldering Lug.....	Price
" " " -172 " " " with " "	\$.78
	.84

With Angle Adjustment	1/2" One Strap	3/4" Two Straps	1" Three Straps
GC-12 Fitting without Lug	\$.92		
GC-172-22-32 with "	.96	\$1.70	\$2.65

With Strap Clamp Terminal and Lug

Type GCE

With Threaded Plug Terminal

Type GC

Type GC

For Open Ground Wire

GC-92	Cast Brass with No. 4 Lug & One Strap.....	\$.73
GC-922	" " " " 00 Lug & Two Straps.....	1.45

Size	1½"	¾"	1"	1¼"	1½"	2"	2½"	3"
Without Screw or Lug.	\$.10	\$.13	\$.20	\$.24	\$.31	\$.46	\$.84	\$ 1.10
With Screw & Lug....	.20	.24	.31	.32	.40	.61	1.00	1.25

[illegible]

For BX or Armored Cable		Size of	Price
Description		K. O.	Each
Standard Squeeze Connector $\frac{1}{2}$ - $\frac{1}{2}$			\$.06
" Set Screw Connector $\frac{1}{2}$ - $\frac{1}{2}$06
" Slip In Connector $\frac{1}{2}$ - $\frac{1}{2}$06
" Duplex Connector $\frac{1}{2}$ - $\frac{1}{2}$18

BOX	Squeeze or Tangent Type	1 1/2	.30
CONNECTORS		1 1/2	.55
		1 1/2	.65
		1 1/2	.85
		2	1.25

90 DEGREE ANGLE BOX CONNECTOR	Squeeze or Tangent Type	1 1/2" 1.00 1 1/4" .75 1 3/8" .40 1 1/8" .35
-------------------------------------	----------------------------------	---

ANGLE BOX CONNECTOR	or	1 1/2"	.80
	Tangent	1 3/4"	1.00
	Type	1 3/8"	1.25

FOR	" 12 "	.42
FLEXIBLE	" 12 "	.84
STEEL	" 12 "	.70
CONDUIT	" 12 "	1.00
	" 12 "	1.10
	" 12 "	1.20

Bushings or Ferrules—Brass.....	.02
---------------------------------	-----

Number	Description	Price
2150-57-60-61	Straps—Fasteners & Bushings.....	\$ 0.02
2150	Tongue with Wire Loop.....	.08
2170-2180-2154	Set Screw Connector.....	.10
2170-2181	Special Box Connector.....	.10
2155-2156	90 Degree Box Connector.....	.21
412-413	Connector for Ovalflex to Metal Molding.....	.26
9080-S	Squeeze Connector.....	.85

OLD HOUSE WIRING

SMALL STORE & OFFICE WIRING

NEW HOUSE WIRING

APPLIANCES

4 primary markets for non-metallic sheathed cable

NON-METALLIC

balance these Non-Metallic Sheathed Cable markets against your business

*Are you getting your share of the business
represented in these four markets?*

OLD HOUSE WIRING—Get in step with the "Old House Wiring Campaign" that your local Electrical League, or your Central Station, is running. Go after this business with Non-Metallic Sheathed Cable. *There are ten million homes in this country that need rewiring.*

NEW HOUSE WIRING—Get more business by "wiring-for-the-future" with Non-Metallic Sheathed Cable. You can wire with Non-Metallic Sheathed Cable at lower cost.

SMALL STORES AND OFFICES—Increase your profits for this year by going after these neighborhood stores. Most of them are poorly lighted. Non-Metallic Sheathed Cable is the answer.

APPLIANCES—Refrigerators, dishwashers, ranges, washing machines, heaters—the list is long and still growing by leaps and bounds. Wire them in with Non-Metallic Sheathed Cable.

If you haven't complete information about Non-Metallic Sheathed Cable write to any of the Licensed Manufacturers listed below, for the booklet—"Where and How to Use Non-Metallic Sheathed Cable".

American Circular Loom Company
Anaconda Wire and Cable Company
Collyer Insulated Wire Company
Eastern Tube and Tool Company
General Electric Company
National Metal Molding Division
National Electric Products Corporation
Rome Wire Company
Division of General Cable Corporation
The Wiremold Company
Triangle Conduit Company, Inc.

The above Manufacturers are Licensed under Non-metallic Sheathed
Cable Patents number 1439323; 1520680; 1203788; 1673752.

SHEATHED CABLE

Does business *need a tonic?*



BUSINESS is good for those who plan. Check over the successful merchants in your own locality, and you will find that every one has a plan of business attack. You will find that those who say "Business is poor" or "We can't get business" are those whose business needs a plan and not a tonic. If you are a Ventilat-

ing, Electrical or Sheet Metal Contractor, the American Blower Corporation, one of the world's largest manufacturers of ventilating equipment, offers you a complete selling and advertising plan for your business. There is no charge or obligation. This plan, as well as the major portion of the material contained in it, is free for the asking. Mail the coupon today and we will send you all the details. Doing so may open to you, as it has to hundreds of other contractors, new roads to increased profits.

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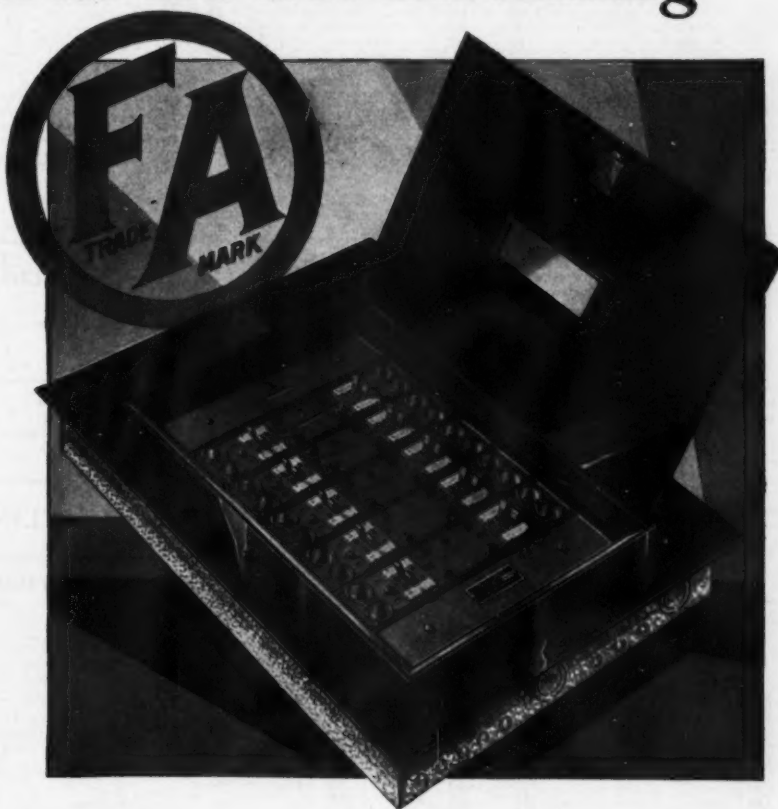
C O U P O N

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I am interested in your plan for selling electric ventilating equipment. Please send me a copy of the American Blower Blue Book. I understand there is to be no obligation or charge.

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 Firm Name _____
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If you worry about panelboard jobs blame yourself for not installing



Ask the FA Man

Had we tried solely to eliminate your worry and reduce your work we could not have built a better panelboard than **FA** for just that purpose. Yet **FA** Panelboards better the job as well and give a long-as-the-building-lasts service without maintenance.

They are unit built to afford higher quality at lower cost; they are standardized so each panelboard is the finest possible to build. They are entirely safe and remain so permanently. From every viewpoint they are the acceptable and accepted panelboards.

Country-wide service with experienced men to help you on panelboard and switchboard problems. Practical help without obligation. Send for the complete **FA** Catalog No. 45.

Frank Adam ELECTRIC COMPANY ST. LOUIS

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J. J. Cassidy,
231 Congress St.

BUFFALO, N. Y.
Ralph E. Jones,
1890 Hertel Ave.

CHICAGO, ILL.
Major Equipment Co.,
Inc.,
4603 Fullerton Ave.

CINCINNATI, OHIO
E. F. Schurig,
44 East Third St.

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1814 Allen Bldg.

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1940 Blake St.

DETROIT, MICH.
H. H. Norton,
2683 Wabash Ave.

JACKSONVILLE, FLA.
F. W. Knoepfel,
2822 St. Johns Ave.

KANSAS CITY, MO.
Robert Baker,
19 E. 14th St.

LOS ANGELES, CALIF.
E. Zinsmeyer,
1127 S. Wall St.

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C. B. Rutledge,
203 Monroe Ave.

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Leo. H. Cooper,
422 Builders' Ex. Bldg.

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203 Natchez Bldg.
Magazine & Natchez Sts.

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182 North 11th St.
Brooklyn

OMAHA, NEBR.
B. J. Fleming,
215 S. 12th St.

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W. A. McAvoy,
244 North 10th St.

PITTSBURGH, PA.
B. Frank Perry, Inc.,
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Lee Van Atta,
340 Fremont St.

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TULSA, OKLA.
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Gen. Sales Office,
370 Pape Ave.,
11 Charlotte St.

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Co., Ltd.
Granville Island

WINNIPEG, MAN., CAN.
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677 Notre Dame Ave.

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Amalgamated Elec.
Co., Ltd.

57 John St., N.
MONTREAL, CAN.
Amalgamated Elec.
Co., Ltd.
1006 Mountain St.

Molding

FITTINGS—Continued

No.	Description	Price	No.	Description	Price
401	Box Connector.....	\$.24	438	Sgle. Flush Box.....	\$1.00
406	Combination Fitting.....	.25	439	" " Surface Box.....	.80
407	Utility Box.....	.40	439 X	One Gang Box.....	.80
412	Connector.....	.24	439 D	" " " ".....	.80
413	".....	.28	439 S	Sgle. Surface Box.....	.70
414-S	".....	.24	440	" " " ".....	.70
419A-B-C	Toggle Bolt.....	.09		Two Gang Surface	1.15
420A-B	Spring Toggle Bolt.....	.09	440 D	Box.....	1.10
421	Lead Shield.....	.10	440 X	" " " ".....	1.10
425A	Folding Strap.....	.02		Single Plates 447-48-	
426	Susp. Strap 2 Line.....	.06		50-51-61-91.....	.15
427	" " 3 ".....	.08		Two Gang Plates	
428A	Folding Strap.....	.04		452-62-92.....	.30
428	Fixture Rosette.....	.65		Three Gang Plates	
434	Sing. Strap.....	.06		430-63-93.....	.30
435	Double Strap.....	.08	441	Single Adaptor.....	.70
436	Coupling.....	.06	442	Two Gang Adaptor.....	1.15
437	45 Deg. Elbow.....	.22	500	Bushing.....	.08
			2155-6	90 Deg. Connector.....	.35

OVALDUCT

3 Wire Per Foot \$.18

OVALDUCT FITTINGS

No.	Description	Price Each
4-CQ	Extension box cover for 4" outlet boxes	\$.50
401	Box Connector 5/16" x 1/2" Locknut	.15
2133	Squeeze Type Coupling 1 1/4" long	.15
2134	90 Degree Internal Elbow 1 1/4" long	.35
2135	45 "Lat	.27
2136	One Piece 90 degree elbow	.50
2136	Box Connector	.34
2137	Wire Toggle Fastener	.38
2161	Strap Fastener	.02
2181	Connector Ovalduct to Oval Knockout	.10
2662	Outlet Box 4 x 4	.21
2663	Extension Ring for Boxes	.20
2665	Outlet Box 4 x 4 with Fixture Stud	.28
2666	" " 3 1/2 x 3 1/2	.28
2667	" " 3 1/2 x 4 1/2	.27
2668	" " 4 1/2 x 4 1/2	.38
4170-51	Sectional Switch Box 4 x 1 1/4 x 1	.38
4172-51	Spacer for above box	.38

MOLDING, WIREMOLD

MOLDING

No. 500 2-Wire,	price per ft.	.....	\$.10
" 700 4-Wire,	" " "	.....	.12
" 1000 Master Size,"	" " "	.....	.25

FITTINGS

	For No. 500		For No. 700		For No. 1000	
	2 Wire Size	No. Price	4 Wire Size	No. Price	Master Size	No. Price
Coupling.....	501	.04	5701	.04	1001	.06
Bushing.....	502	.04	702	.04	1002	.04
Supporting Clip.....	503	.06	5703	.06		
Strap.....	504	.04	704	.06	1008	.08
Connecting Cover.....	506	.04				
Multiple Strap.....	507	.10				
Ground Coupling or Clamp.....	509	12	5709	12	1009	.80
Flat Elbow.....	511-12	.22	5711-12	.22	1011	.45
Tee Plain.....	515	.36	5715	.36		
Cross Plain.....	516	.37				
Internal Elbow.....	517	.26	5717	.26	1017	.45
Elbow Pull Box.....			5717A	.80		
External Elbow.....	518	.22	5718	.25	1018	.40
Corner Box.....	519	.37	5719	.45		
Narrow Fitting.....			5720	.55		
Show Case Fitting.....			5720A	.45		
One Piece Rosette.....	521	.36	5721	.36		
Two Piece Rosette and Block.....	522	.60				
Fixture Rosette, 1/4".....	523	.70				
" 1/2".....	524	.65	5724	.85		
Receptacle Base.....	525	.70	5725	.85		
Keyless Receptacle.....	526	.90	5726	.90		
Attachment Plug.....	527	1.00	5727	1.00		
Utility Box.....			5728-29	.36		
Contact Block.....	30		5730	.30		
Blank Cover.....	531	.14	5731	.14		
Outlet Box, 2 1/2" or 3".....	532-33	.45	5732-33	.45		
Closed Extension Box.....			5734	.85		
Distribution Box.....			5735	.70	1035	1.05
Blank Cover.....	536	16	5736	.16		
Extension or Fixture Box.....	537-38	.65	5737-38	.65		
Fixture.....	634		5739 & A	.85		
Combination Box.....			5745	.70		
Switch or Recep. Box, Single.....			5747	.80		
" " " " 2 Gang.....			5747-2	1.05		
" " " " 3 Gang.....			5747-3	1.15		
Surface Box, Single.....			5748	.90		
" " " " 2 Gang.....			5748-2	1.20		
" " " " 3 Gang.....			5748-3	1.25		
Shallow Receptacle Box.....			5748S	.70		
Push Switch Box.....	549	1.00	5749	1.00		
" " Shallow.....	550	1.05	5750	1.05		
Adaptor Plate and Cover, Single.....	551	.70	5751	.70		
" " " " 2 Gang.....	552	1.25	5752	1.25		
" " " " 3 Gang.....	553	1.35	5753	1.35		
Blank Extension Box.....			5760	.95		
Box Connector.....	581	.34	5781 & A	.34		
Conduit Coupling.....	582	.38	5782 & A	.38		
Elbow Box Connector, 1/2" Male.....	583	.38	5783	.38		
Conduit Elbow, 1/2" Female.....	584	.38	5784	.38		
Combination Connector.....	585	.25	5785	.25		
Offset Connector.....			5786	.40	1086	.70
Openwork Coupling.....	588	.36	5788	.40		
Kick Plate.....					1087	.34

N-SUNDRIES

PIPE NIPPLES
Made from Galvanized Wrought Iron Pipe

		Size of Nipples and Price Each									
Length		Size 3/8"	Size 1/2"	Size 3/4"	Size 1"	Size 1 1/8"	Size 1 1/4"	Size 1 3/8"	Size 1 1/2"	Size 1 3/4"	
2	Close Nipples...	\$.06	\$.06	\$.06	\$.07	\$.10	...	...	...	...
2 1/2	" to 3 1/8" Long	.10	.10	.10	...	...	...	...	...	...
3	" to 3 1/2" "	...	...	...	.12	.15	...	...	...	...
3 1/2	" to 4 1/8" "	...	...	...	...	...	.21	.28	.35	...
4	" Long	.11	.11	.10	...	...	.22	...	...	...
4 1/8	"	.12	.12	.14	.14	.20	.24	.30	.38	...	
4 1/2	"	...	.14	.15	.17	.22	.28	.34	.40	...
5	"	...	.18	.20	.21	.27	.34	.40	.46	...
5 1/8	"	...	.20	.20	.21	.23	.30	.37	.45	.60
5 1/2	"	...	.21	.21	.22	.25	.33	.40	.50	.67
6	"	.23	.23	.24	.27	.37	.40	.56	.75	...	

NOTE RE NIPPLES—Above prices cover nipples made from ordinary Galvanized pipe as used by plumbers. If local rules call for nipples to be made from genuine conduit add the following:
For nipples made from genuine black conduit add 30% to above prices.
For nipples made from genuine Galvanized conduit add 40% to above prices.

CHASE NIPPLES & COUPLINGS

Size	3/4"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Chase Nipples...each	\$.10	\$.10	\$.14	\$.25	\$.30	\$.32	\$.45	\$.72
* Couplings	.12	.12	.14	.....	.....	.....	.....	.....

For Erickson Couplings, see Page PL-8.

**CHASE MALE REDUCERS
CHASE FEMALE ENLARGERS**

T & B or Similar

$\frac{1}{8}$ " to $\frac{1}{4}$ " Reducers, each.....	\$.20	$\frac{1}{4}$ " to $\frac{1}{2}$ " Enlargers, each....	\$.20
$\frac{1}{4}$ " " " $\frac{3}{8}$" " " .....	.25	$\frac{1}{4}$ " " " $\frac{1}{2}$" " " .....	.25
$\frac{3}{8}$ " " " $\frac{1}{2}$" " " .....	.40	$\frac{1}{2}$ " " " $\frac{3}{4}$" " " .....	.30
		$\frac{3}{4}$ " " " $\frac{1}{2}$" " " .....	.50

NAILS

Insulated

Millonite Insulated Nails, per dozen.....	\$.05
Leather Nail Heads, " " .....	.05
Staples Insulated, " " .....	.05

PLUGS, ATTACHMENT

ATTACHMENT PLUGS COMPLETE

Style	Cap	Blades	Price
Pony Comp.....	Composition	Parallel	\$.15
Standard Comp.....	Comp.	Parallel	.20
Genuine Bakelite.....	Bakelite	Parallel	.35
Large Size Comp.....	Composition	Tandem	.55
Weatherproof Comp.....	One Piece	None	.55
Body Only—Pony.....			.10
Standard.....			.15
Bakelite.....			.20

CAPS ONLY—10 AMP.
For Attachment Plugs

Comp. Pony	2 Wire	Parallel.....	\$.10
Comp. Standard	2 Wire	Parallel.....	.10
Comp. Polarity	2 Wire	Parallel.....	.10
Comp. Gen. Bakelite	2 Wire	Parallel.....	.20
Comp. Large Size	2 Wire	Tandem.....	.25
Comp. Large Size	2 Wire	Polariz.....	.35
Comp. Paraline Conv.	2 Wire	Polariz.....	.40
Comp. Heavy Duty	3 Wire	Polariz.....	.45
Comp. Diaapp. Door	2 Wire		.75
Steel Cov. Standard	2 Wire	Parallel.....	.15
Brass Cov. Standard	2 Wire	Parallel.....	.45
Brass Cov. Dia. Door	2 Wire		1.00
Cord Grip Comp.	3 Wire	Polariz.....	.65
Cord Grip Steel Cov.	2 Wire	Parallel.....	.50
Cord Grip Steel Cov.	2 Wire	Polariz.....	.75
Knostrain All Comp.	2 Wire	Parallel.....	.45
Knostrain Brass Base			
Comp. Top	2 Wire	Tandem.....	.85
Knostrain all Brass Cov.	2 Wire	Tandem.....	.95
Knostrain all Brass Cov.	2 Wire	Parallel.....	.95

20 AMPS.

Composition	2 Wire	Polariz.	.....	\$ .50
Composition	3 Wire	Polariz.	.....	.65
Brass Covered	2 Wire	Polariz.	.....	.90
Brass Covered	3 Wire	Polariz.	.....	1.00
Comp. with Cord Grip	2 Wire	Polariz.	.....	.75
Comp. with Cord Grip	3 Wire	Polariz.	.....	.95
Steel Cov., Cord Grip	2 Wire	Polariz.	.....	.95
Steel Cov., Cord Grip	3 Wire	Polariz.	.....	1.20

30 AMPS.

Composition	2 Wire	Polariz.	.....	\$ .75
Comp. Ex. Heavy	2 Wire	Polariz.	.....	1.45
Porcelain Standard	3 Wire	Polariz.	.....	.65
Comp. with Cord Grip	3 Wire	Polariz.	.....	1.65
Steel Cov., Cord Grip	2 Wire	Polariz.	.....	1.80
Steel Cov., Cord Grip	3 Wire	Polariz.	.....	2.15

Flasher Plugs

Diamond Flasher Button.....	\$.60		
Speedoodle Plugs No. 125.....	2.50	No. 161.....	\$.80
" " No. 164.....	.60	No. 165.....	.90

Plugs, Appliance

Plates & Plugs

PLUGS, APPLIANCE

Make	Number & Description	Price Each
American Beauty	802 Plug Complete for Small Irons.....	\$.50
"	806 " " " Large Irons.....	1.35
"	807 " " " Toasters & Stoves.....	.25
Arrow	29000 Pendant Switch Plug.....	1.00
Beaver	F1 Gripall Super Type Adjust. Contacts.....	.45
"	F4 " " " Nickel Alloy Contacts.....	.55
"	F5 " " " Armored Case.....	.55
"	F6 " " " Type Arm'd Case Nickel Alloy Cont.....	.60
"	F7 " " " High Grade Bakelite.....	.60
"	F22 Suitzall Double Contacts.....	.30
"	F31 " " Single Contacts.....	.15
"	F32 " " Double Contacts.....	.20
"	F33 " " Armored Case.....	.30
"	F34 " " Small Plug Bakelite.....	.30
"	G-1 Gripall Plug Adjust. Contacts.....	.90
"	G-21 Push Button Type.....	.45
"	G-22 New Toggle Type.....	.45
Betsy Ross	Safeguard Automatic Heater Control Plug.....	1.50
"	All Appliance Plug.....	.20
Bryant	668 Plug Complete with Switch.....	.90
"	Shorter than 668.....	.85
"	29081 Pendant Switch Plug.....	1.00
Cutler-Hammer	7051 Plug Complete with Switch.....	.75
"	7350 Pendant Switch Plug.....	1.00
GE	2602 Armored Heater Plug, Brown Compound.....	.25
"	2603 Not Armored Heater Plug, Brown Compound.....	.20
"	2642 " " with Tumbler Sw., Brown Compound.....	.50
"	2296 Pendant Switch Plug.....	1.00
Hemco	250 Heater Plug, no Switch.....	.45
"	260 Switch Appliance Plug.....	.75
Hotpoint	CD6P1 Iron Plug.....	.45
"	CD6P1 " " Armored.....	.60
"	CD79P1 " " with Switch.....	1.00
Hubbell	7020 Appliance Switch Plug.....	.75
Kool-Pull (Colts)	Appliance Plug, no Switch 8037.....	1.00
"	with Switch 8039.....	1.00
Plugall	9 Appliance Plug with Spring.....	.30
"	700 " " Switch.....	.85
Propp	5—One 4 All Appliance Plug, no Switch.....	.30
"	55 Standard Iron Plug, no Switch.....	.25
"	56 Armored.....	.55
"	59 Iron Plug with Switch.....	.55
P & S	1550 Appliance Switch or Pendant.....	1.00
Red Bird	151 Appliance Plug, No Switch.....	.40
Reynolite	500 Reynolite Connector Plug, no Switch.....	.50
"	510 " " with Switch.....	.85
Rodale	P-21 Appliance Plug No Switch.....	.20
"	P-29 " " Armored.....	.25
"	615 " " Bakelite No Switch.....	.25
"	615 " " Armored.....	.35
"	850 " " With Switch.....	.55
"	800 " " Armored With Switch.....	.90
Simplex	890 Armored Appliance Plug, no Switch.....	.75
"	990 DeLuxe Chromplate Plug.....	1.00
Sunbeam	Heater Plug.....	1.50
Torrid	B-680-3-4-5-6 Safety Control Plug.....	1.00
"	" Heat Control Plug.....	1.00
Westinghouse	209423 Plug Complete, no Switch.....	.75
"	373656 " " with Switch.....	1.00

PANEL BOARDS OR FUSE CABINETS

BULLDOG FUSENTERS

No.	Description	2	4	6	8	12
		Circt.	Circt.	Circt.	Circt.	Circt.
CBS	Surface Black Finish with inside shield.....	\$1.85	\$ 2.35	\$ 3.95	\$ 7.10	\$10.40
BOS	" " Black Finish with-out Shield.....	1.70	2.20	.....	.....	.....
BF	Flush Laminized Finish.....	2.50	3.75	5.40	8.80	11.80
BBF	" " Black Finish.....	2.00	2.75	4.75	.....	.....
BSF	" " Lum. Finish with Toggle Switches.....	.....	6.65	10.00	13.30	20.00
BSS	" " Lum. Finish with one 30 A. Saftofuse.....	.....	20.60	22.00	32.00	35.25
BSS	" " Lum. Finish with one 60 A. Saftofuse.....	.....	21.60	22.50	32.35	35.65
BKF	" " Lum. Finish Combined Fusenter & Pull Box.....	.....	6.65	10.00	15.00	20.00
Combinations—For Resale Prices on all other Fusenter Combinations deduct 17% from Bulldog Co.'s List Prices.						

All-Steel-Equip.Co., FUSE CABS

Style & No.	Description	2	4	6	8	12
		Circt.	Circt.	Circt.	Circt.	Circt.
C-702-4-6	Surface Small Type.....	\$1.75	\$2.45	\$ 3.75	.....	.....
C-602-4-6	Surface Small Type.....	2.20	2.85	4.95	.....	.....
Series D	Surface Type Spl. Fuse.....	.....	.....	.....	.....	.....
3004 to 3074	Not for Branch Switch.....	.....	3.20	5.10	\$ 7.50	\$10.10
3034 to 3094	Not for Branch Switch.....	.....	3.75	5.60	9.00	12.10
4002 to 4012	Not for Branch Switch.....	3.20	5.10	10.10	23.00	36.00
4022 to 4032	Not for Branch Switch.....	3.75	9.00	12.10	27.00	45.00
Series DS	Flush or Surface-Spl. Fuse.....	.....	6.90	9.25	13.80	21.00
3300 & 4300	Fuse Trims for Tog. Sw.	6.90	9.25	21.00	34.50	70.00
3500 & 4500	Fuse Trims for Tog. Sw.	6.90	9.25	21.00	34.50	70.00

G. E. or TRUMBULL Residence Panel Boards

Surface or Flush Mounting	4	6	8	10	12	14
Single No. 3104 to 3212	Circt.	Circt.	Circt.	Circt.	Circt.	Circt.
Flush Mts.	.....	.....	.....	.....	.....	.....
Or Fusing 2906 to 2912	.....	.....	.....	.....	.....	.....
Surface Mts.	\$2.80	\$ 4.55	\$ 9.65	\$11.25	\$13.00	\$15.50
Double No. 3404 to 3412	.....	.....	.....	.....	.....	.....
Flush Mts.	.....	.....	.....	.....	.....	.....
Or Fusing 2704 to 2712	.....	.....	.....	.....	.....	.....
Surface Mts.	9.10	12.40	18.15	23.10	26.40	.....

Electrical Contracting, May, 1930

CUTLER-HAMMER (T-V)

Fuse Panels—Surface or Flush Mounting

Circuits	2	4	6	8	10	12
	Circt.	Circt.	Circt.	Circt.	Circt.	Circt.
Black Finish Series 4355 & 4356.....	\$ 1.75	\$ 2.40	\$ 3.20	\$ 4.30	\$ 5.50	\$ 6.80
Aluminum Finish Series 4355 & 4356.....	2.25	3.20	4.30	5.50	6.80	8.20
Circuits	8	10	12	14	16	18
Black Finish Series 4355 & 4356.....	\$ 7.60	\$ 9.10	\$ 10.70	\$ 12.50	\$ 14.50	\$ 16.50
Aluminum Finish Series 4355 & 4356.....	7.95	10.00	10.70	12.50	14.50	16.50

SQUARE D Fuse Cabinets

Series 37000 to 39000	2	4	6	8	10	12
	Circt.	Circt.	Circt.	Circt.	Circt.	Circt.
Flush Series 37000 Black.....	\$1.85	\$2.50	\$4.50	\$7.90	\$9.50	\$11.15
" " 37000 Aluminum.....	2.35	3.35	5.10	8.30	10.00	11.15
Surface Series 39000 Black.....	1.85	2.50	4.50	7.90	9.50	11.15
NOTE: 2 & 4 Circuit Flush Type are also available with channels for Lath Ends for mounting direct to front side of studding. For these cabinets add to Resale Price each.....						
						\$0.20

WADSWORTH Dead Front Fuse Cabinets

Surface Mtg. Single Fusing.....	2	4	6	8	10	12
	Circt.	Circt.	Circt.	Circt.	Circt.	Circt.
Flush Mtg.—Single Fusing.....	\$2.30	\$3.00	\$4.85	\$5.75	\$7.55	\$11.55
Flush Type for Tgle Sw.....	2.85	3.80	6.10	7.55	10.20	12.00
	6.85	11.10	13.75	16.40	19.85	.....

WESTINGHOUSE Junior Residence Type

Galvanized or Gray Box	2	4	6	8	10	12
	Circt.	Circt.	Circt.	Circt.	Circt.	Circt.
Junior Residence Panels	.....	.....	.....	.....	.....	.....
No. K-64012-21 & 64052-61	\$1.65	\$2.50	\$ 4.50	\$ 6.60	\$ 7.85	\$9.90
Junior Branch Fuse Attach	.....	.....	.....	.....	.....	.....
No. K-62398 & 62399	1.75	2.55	.....	.....	.....	.....
Junior Building Panels for Toggle Switches	.....	.....	.....	.....	.....	.....
No. K-64034-42 & 64074-81	6.60	9.90	13.20	16.50	19.80	.....

DIAMOND PANEELETES

Surface Type				Flush Type			
No.	Circuits	Size	Price	No.	Circuits	Size	Price
B-4	4	7x7 x3	\$2.15	F-4	4	8x10 1/4 x3 1/4	\$ 3.30
S-4	4	8x10 1/4 x3 1/4	2.50	F-6	6	8x12 x3 1/4	4.45
S-6	6	8x12 x3 1/4	3.50	F-8	8	8x13 1/4 x3 1/4	8.25
S-8	8	8x13 1/4 x3 1/4	6.85	F-10	10	8x15 1/4 x3 1/4	9.75
S-10	10	8x15 1/4 x3 1/4	7.40	F-12	12	10x18 x3 1/4	11.15
S-12	12	10x18 x3 1/4	9.90				
Toggle Flush Type							
No. of Circuits.....	4	6	8	10	12		
Cat. Number.....	FS-4	FS-6	FS-8	FS-10	FS-12		
Price.....	\$6.60	\$9.90	\$14.85	\$17.30	\$19.80		

P-SUNDRIES

RUNNING THREAD, PIPE

Price per Foot.....	1/4"	3/8"	1/2"	3/4"	1"
	\$.25	\$.30	\$.35	\$.45	.....

SOLDERING PASTE

(Also on Page PL-25.)

Make	2 Oz.	4 Oz.	Half Pound	One Pound
	Cans	Tubes	Cans	Cans
Allen.....	\$.25	\$.40	\$.50	\$1.50
Burnley.....	.20	.30	.40	.70
Crescent.....	.25	.40	.65	1.00
G. E.....	.25	.....	.90	1.50
Highland.....	.45	.....	.90	1.50
Nokorode.....	.25	.....	.90	1.50
Star.....	.25	.40	.65	1.00

PAINT & VARNISH

Insulating

Make	Per Pint	Per Quart	Per Half Gallon	Per Gallon
Armstrong Insulating Compound.....	\$0.50	\$0.75	\$1.25	\$2.50
Alax Varnish No. 25.....	.40	.65	1.00	2.00
Enamelac Insulating Varnish.....	.40	.70	1.25	2.25
G. E. Black Baking or Air Drying.....	.50	.75	1.25	2.25
G. E. Clear Baking or Air Drying.....	.50	.75	1.25	2.50
Mineralac Insulating Compound.....	.40	.75	1.50	3.00
P. & B. No. 2 Paint.....	.40	.75	1.50	3.00
Pothead Compound, per Pound.....	.....	.....	.....	.55

CONDUIT WOOD PLUGS

Price Each.....	1/4"	3/8"	1/2"	3/4"	1"	2"
	\$.02	\$.03	\$.05	\$.10	\$.16	\$.36

For Pipe Straps, see Page PL-25. For Solder, Sticks, etc., Page PL-25.

PLATES & PLUGS, RECEPTACLE

PLATES—For Flush Receptacles

	.040 Thick	.060 Thick
	Brass	Brass
Stand. Plate Single or Duplex.....	\$.15	\$.20
Lift. Cover Pl. Single only.....	.30	.40
Lift. Cov. 2 Gang.....	.50	.60
Combination Switch & Receptacle.....	.....	.55
Disappearing Door Plate Single.....	.....	.70
Duplex.....	.....	1.10
20 & 30 Amp. Brass Plates similar to Hubbell Nos. 7072 & 7114.....	.....	1.50

SUNDY PLATES—For Receptacles

Bakelite or Composition Plate Single or Duplex Each.....	\$.20
2 Gang Combination Plate Each.....	.40
Guth Porcelain Plate for Single or Duplex Receptacle.....	.30
Mirror Glass Single Plate \$1.00—Duplex \$1.75—3 Gang.....	2.50
Bryant Wood Inlaid One Gang For Single or Duplex Receptacle.....	2.25
De Luxe All Metal.....	.85
Hubbell Bakelite Screwless Plate.....	.60

ALABAX RECEPTACLES AND FIXTURES

Symbol: Column No. 1—Number of Alabax Fixture.

Column No. 2—Resale Price Standard White Glaze Finish.

Column No. 3—Resale Price All Over Color B-D-E-F-G-H-J-K-L-M.

Column No. 4—Resale Price Stripe Decoration No. 1A-2A-4A.

		Blades	Prices
10 A. Composition Pony	2 Wire.....	Parallel	\$.10
10 A. Composition Standard	2 Wire.....	Parallel	.10
10 A. Genuine Bakelite	2 Wire.....	Parallel	.20
10 A. Large Size Composition	2 Wire.....	Tandem	.25
10 A. Large Size Composition	2 Wire.....	Polariz.	.35
10 A. Diapp. Door Composition	2 Wire.....		.75
10 A. Diapp. Door Brass Covered			1.00
10 A. Steel Covered Std.		Parallel	.15
10 A. Brass Covered Std.	2 Wire.....	Parallel	.45
10 A. Cord Grip Composition	2 Wire.....	Parallel	.30
10 A. Cord Grip Steel Cov.	2 Wire.....	Parallel	.50
10 A. Knostrain All Composition	2 Wire.....	Parallel	.45
10 A. Knostrain Brass Cov. Base	2 Wire.....	Parallel	.85
10 A. Knostrain All Brass Cover	2 Wire.....	Parallel	.95
20 A. Composition	2 Wire.....	Polariz.	.60
20 A. Composition	3 Wire.....	Polariz.	.65
20 A. Brass Covered	2 Wire.....	Polariz.	.85
20 A. Brass Covered	3 Wire.....	Polariz.	1.00
20 A. Compo. Cord Grip	2 Wire.....	Polariz.	.75
20 A. Compo. Cord Grip	3 Wire.....	Polariz.	.95
20 A. Steel Cov. Cord Grip	2 Wire.....	Polariz.	.95
20 A. Steel Cov. Cord Grip	3 Wire.....	Polariz.	1.20
30 A. Composition	2 Wire.....	Polariz.	.75
30 A. Composition Hubbell	2 Wire.....	Polariz.	1.45
30 A. Porcelain	3 Wire.....	Polariz.	1.45
30 A. Compo. Cord Grip	3 Wire.....	Polariz.	1.65
30 A. Steel Cov. Cord Grip	2 Wire.....	Polariz.	1.80
30 A. Steel Cov. Cord Grip	3 Wire.....	Polariz.	2.15

STANDARD RECEPTACLES OR CONVENIENCE OUTLETS

Without Plates			Plates Extra		Price
Shallow	Comp. Side	Wired	Single	.....	\$ 25
			Duplex	.....	35
	Porc.		Single	.....	25
			Duplex	.....	35
Deep	Comp. Top		Single	.....	40
			Duplex	.....	60
	Porc.		Single	.....	40
			Duplex	.....	60

Plates Extra Except Where Marked "X"

For Life Cover Plate Single.....	\$.55
Duplex.....	.75
1 With Rd. Met. Cvr. For 3 1/4 Box Single.....	.30
" " " " Duplex.....	.45
" " " " Duplex.....	.35
" " " " Duplex.....	.35
1 With Rd. Brass Plate Small Single.....	1.15
Large.....	1.30
Edison Screw Base Recp. Single.....	.25
Disappearing Door Recp. Single.....	.75
Screwless Plate Recp. Single.....	1.10
Duplex.....	.30
10 Amp. Polariz. For 2 Wire Single.....	.65
20 " " " " ".....	1.20
30 " " " " ".....	1.45
" " " " ".....	1.45
20 " " " " ".....	3.00
30 " " " " ".....	1.60
40 " " " " ".....	1.65
30 " " " " ".....	1.65
40-60 Amp. Polariz. 3 Wire Single With Ring.....	5.50

No.	Connections	Brass	Bakelite
134	Several loud speakers.....	\$2.50	\$2.60
135	Loud speaker.....	1.00	1.10
136	Aerial & ground.....	1.00	1.10
137	" " with plug.....	1.00	1.10
138	Electrical only.....	1.00	1.10
142	Double loud speaker.....	1.15	1.85
238	Loud speaker, aerial & ground.....	2.00	2.20
241	Aerial, ground & elect'l.....	2.00	2.20
242	Loud speaker & elect'l.....	2.00	2.20
299	Aerial, ground & battery.....	2.50	2.70
353	Loud speaker, aerial, ground & elect'l.....	3.00	3.20

With Plates

Bryant Numbers or Equal

2957-2979	One Porc. Flush Recep. One Tumb. Switch Tempus or Brass Pl.	\$2.00
2987-2989	One Comp. Recep. One Tumb. Switch Tempus or Brass Plate.	2.00
117	Porc. Flush Recep. One Ind. Switch- .060 Brass Plate...	2.00
121	One Pilot light .060 Brass Plate...	2.00
518	Diap. Door Rec. One Bulls Eye Solid Plate...	5.00
518	Flush Switch-Bulls Eye Solid Pl.	7.50
567	Flush Recep. One Flush Switch- Bulls Eye Solid Plate...	6.00
753	Duplex Flush Recep. Bulls Eye Solid Plate...	3.75
768	Push Switch Bulls Eye Solid Plate...	3.00
427	Bulls Eye Rectapete & Lamp no plate.	1.25
	Hubbell Switch Tap Combination #7163 & 7164 without Plate.	2.15

PULL TYPE OR LAMPHOLDERS

Keyless & Pull Chain for Lighting

[illegible]

P & S, Hubbell, Arrow, G. E., Bryant, Weber

Symbol: Column No. 1—Number of Alabax Fixture.

Column No. 2—Resale Price Standard White Glaze Finish.

Column No. 3—Resale Price All Over Color B-D-E-F-G-H-J-K-L-M.

Column No. 4—Resale Price Stripe Decoration No. 1A-2A-4A.

Column 4—Resale Price Stripe Decoration No. 1A-2A-4A.							
Column No. 1 Number	Column No. 2 White	Column No. 3 Color	Column No. 4 Stripe	Column No. 1 Number	Column No. 2 White	Column No. 3 Color	Column No. 4 Stripe
Al844	\$4.10	\$4.60	.....	Al1201	\$3.10	\$3.40	\$3.55
845	4.50	4.95	.....	1202	2.70	3.00	3.20
846	3.85	5.25	\$5.70	1203	3.10	3.40	3.55
847	5.20	6.10	1.75	1273	.60	1.70	.80
848	2.30	2.60	6.75	1274	.95	1.10	1.30
849	2.90	3.15	3.35	1275	1.05	1.20	1.30
850	2.90	3.15	3.35	1276	.20	.35	.40
851	1.75	2.00	2.20	1300	3.50	3.75	3.95
852	4.15	4.60	5.05	1301	3.50	3.75	3.95
853	4.50	4.95	5.40	1340	3.25	3.55	3.75
859	1.85	2.60	2.75	1350	3.25	3.55	3.75
863	2.30	2.60	2.95	1351	2.10	2.40	2.55
864	3.45	3.90	4.35	1369	3.45	3.75	3.95
865	3.85	4.35	4.75	1370	3.45	3.75	3.95
866	3.45	3.90	.....	1371	2.30	2.60	2.75
867	3.80	4.30	.....	1449	3.35	3.65	3.85
868	3.10	3.35	3.55	1450	3.35	3.65	3.85
870	3.10	3.35	3.55	1451	2.20	2.50	2.65
871	1.95	2.20	2.40	1469	3.55	3.85	4.00
872	4.15	4.60	5.10	1470	3.55	3.85	4.00
873	4.50	4.95	5.40	1471	2.40	2.65	2.85
875	2.90	3.15	3.35	1475	3.60	3.85	4.05
998	1.15	1.45	1.60	1476	3.60	3.85	4.05
919	2.05	2.30	2.50	2007	1.25	1.50	1.70
920	2.05	2.30	2.50	2008	1.75	2.00	2.15
921	.85	1.15	1.35	2009	1.60	1.90	2.10
922	2.05	2.30	2.50	2010	1.80	2.05	2.25
923	2.30	3.15	3.35	2011	1.05	1.35	1.55
924	2.00	2.75	3.95	2012	1.45	1.70	1.90
929	2.45	2.70	2.80	2013	2.10	2.40	2.55
930	2.45	2.70	2.80	2014	2.25	2.50	2.70
949	2.50	2.75	2.95	2015	1.50	1.80	2.00
950	2.50	2.75	2.95	2371	2.35	2.60	2.80
951	1.35	1.60	1.80	2469	4.00	4.45	4.90
952	2.25	2.70	2.80	2471	5.45	6.00	6.55
960	1.25	1.55	1.70	2669	5.50	5.95	6.40
962	2.50	2.75	2.95	2671	4.95	5.40	5.85
969	2.70	2.95	3.15	2846	3.85	5.25	6.75
970	2.70	2.95	3.15	2847	5.20	5.65	6.10
971	1.55	1.80	2.00	2852	6.10	4.60	5.05
980	1.85	2.10	2.30	2853	4.50	4.95	5.40
981	1.75	2.05	2.20	2864	3.45	3.90	4.35
982	2.05	2.40	2.65	2865	3.85	4.25	4.75
983	2.10	2.30	2.50	2870	3.50	4.00	5.05
984	1.55	1.85	2.05	2873	4.50	4.95	5.40
985	1.50	1.75	1.95	9826	2.45	2.75	2.90
989	2.30	2.60	2.75	9836	2.40	2.65	2.85
990	1.90	2.65	2.85	9896	2.65	2.90	3.10
1200	2.70	3.00	3.20	9906	2.75	3.00	3.20

The above Prices do not include Glassware or Lamps.

SURFACE RECEPTACLES—Edison Base

Description	All Keyless	Universal	Price
Pony Cleat Receptacle Side Screws . . .	No S. H. Groove . . .	50715	\$.13
Round Center . . .		9171	.20
Standard Cleat . . . Side . . .		9402	.30
	With . . .	4013	.30
Oblong . . .		58590	.55
Concealed . . . Round Base . . .		4021	.55
	With Removable Ring . . .	50744	.85
Oblong Receptacle for Wood Molding with S. H. Groove . . .		4026	.85
Miniature or Candelabra Small Type . . .		9445-6	.20
	Extended . . .	366-7	.25
Mogul P & S. 820, Arrow 5012, GE 1194, Hubbell 3464, Weber 1422			.85

T-SLOT SURFACE RECEPTACLES

		Price
10 A. Small T Slot Concealed	2 Wire	45
10 A. Small T Slot Cleat	2 "	45
10 A. Small For Wood Molding	2 "	45
10 A. Polarized Cleat	2 "	60
10 A. Polarized Concealed	2 "	60
10 A. Polarized Wood Molding	2 "	65
10 A. Fielding Receptacle	3 "	55
20 A. Polarized Concealed	2 "	70
20 A. Polarized Cleat	2 "	70
20 A. Polarized Concealed	2 "	80
20 A. Polarized Wood Molding	2 "	80
20 A. Polarized Concealed	2 "	1.15
30 A. Polarized Composition	3 "	1.25
40 A. Polarized Composition	3 "	1.20
40 A. Polarized Composition	3 "	1.25
60 A. Polarized Porcelain	3 Pole	1.35

BOX RECEPTACLES

T Slot Type

10 Amp.	Receptacle standard.....	\$.80
10 Amp.	" " " " " "	.80
10 Amp.	" " " " " "with Covered Ter.....	.53
20 Amp.	" " " " " "Polarized.....	.85
10 Amp.	3 $\frac{1}{2}$ " Porcelain Single.....	.45
10 Amp.	3 $\frac{1}{2}$ " " Duplex.....	.55
10 Amp.	4" " Single.....	.60
10 Amp.	4" " Duplex.....	.70

Edison Base Type

With Metal Cover for 3 $\frac{1}{4}$ " Box.....	\$.25
" " " " " " " "	.30
" " " " " " Weatherproof.....	.30
" " " " " " " "	.35
All Porcelain for 3 $\frac{1}{4}$ " Box Keyless .....	.40
" " " " " " " "	.60
All Porcelain Pull Chain for Boxes.....	1.00
Brass Covered Keyless for 3 $\frac{1}{4}$ x 4" Box.....	1.00
Brass Covered Pull Chain for 3 $\frac{1}{4}$ x 4" Box.....	2.00

SIGN RECEPTACLES

Edison Base

R-SUNDRIES

GROUND RODS

RAWLPLUGS—Standard Types

Rawlplugs for Lag Screws

NOTE: For Expansion Shields—See Page PL-10.

COMPLETE STANDARD SOCKETS

CAPS For Above Sockets

Electrical Contracting, May, 1930

BASES FOR SOCKETS

BRASS BAYONET SOCKETS

BRASS TWIN SOCKETS or Current Taps

WEATHERPROOF SOCKETS

ate Base Pull Candle Socket with Paper Jacket
ate Base Keyless Candle Socket Porcelain.....

DIM-A-LITE & LO-LITE SOCKETS

PORCELAIN REFLECTOR & HUSK Sockets—Keyless

INTERMEDIATE BASE Sockets

SOCKET ACCESSORIES

SOCKETS, HEAVY DUTY

Arrow, Bryant, G. E., Hubbell, H. & H., P. & S., Weber

HEAVY DUTY WEATHERPROOF SOCKETS

2	Piece Keyless	3/4"	1/2" Cap.	\$.85
1	"	"	with Cord Grip85
2	"	3/4"	or 1/2" Cap.85
1	"	"	with Cord Grip85
Shadeholders for above sockets.					
2 1/2	Aluminum or Copper Extra		31
3 1/2	"		50
4 1/2	"		70

Sockets, Heavy Duty

HEAVY DUTY SOCKETS—Benjamin		Price Each
Benox Keyless Socket with Clamp Ring	#4700 to #703 Medium Base	\$1.25
" " " " " " " "	" " " " " " " "	1.10
" " Pull " " " " " "	" " " " " " " "	2.00
Benco Keyless Socket	Copper or Alum. #200-1-4-5 & #335 & 7	.80
" " " " " " " "	Brass #4302-4203-4336	.80
" " Pull " " " " " "	#307-5 #325-36 #350-57 Brass, Copper or Alum	1.55
" " Mogul " " " " " "	Copper Clad #4210-4297	2.25
Benco Threaded Holders Only		
Polish. Alum. Weatherpri	#4215 & #4217	\$3.35
Copper	" " " " " " " "	.40
Brushed Brass	" " " " " " " "	.60

	Without Yoke	\$5 or \$5 Iron Yoke	\$5 or \$5 Alum. Yoke
One Piece Socket with Lamp Grip.....	\$1.00	\$1.15	\$1.50
Two Piece Socket with Lamp Grip.....	1.20	1.45	1.70

Porcelain or Sillar		With Type X or XR Fitting	
Medium Base Keyless	Tapped 3/4-14-M No. 4650-51 & 65.....	\$1.20	
"	" Self-Locking 3/4-14-M No. 4632-29-30-32-33.....	1.60	
"	" Shock Absorb. 3/4-14-M No. 4676-77-78-80-81.....	1.45	
"	" Shock Absorb. Self Lock No. 4548-49-50-52-53.....	2.00	
"	" Pull Chain No. 4534-35 & 4660-61-67.....	2.10	
Mogul Base Keyless	Shock Absorbing No. 4670-71-72.....	2.00	
If X or XR Fitting not supplied on above sockets deduct.....		.45	

Plates & Boxes Extra		Price
Square Handle Porcelain Cup—Sgl. Pole.....	Dble.	\$.35
" " " "	4 Way	1.00
" " " "	"	.60
" " Composition Cup—Sgl. Pole.....	Dble.	.85
" " " "	4 Way	1.35
" " " "	"	1.00
20 Amp. Sgle. Pole.....	Dble.	2.35
20 Amp. Dble. Pole.....	3 Way	1.50
Round Handle Porcelain Cup—Sgl. Pole.....	Dble.	.35
" " " "	4 Way	1.00
" " " "	"	.60
" " " "	"	8.00
New Circuit Type		
Twin-2 Sgle. Pole Switches		\$1.35
Twin-1 Sgle. Three Way.....		1.50
Twin-2 Sgle. 3 Way Switches.....		2.10
Triplet-3 Sgle. Pole Switches.....		2.75
Triplet-2 Sgle. & 1-2 Way Switches.....		1.90
Lock Type Porcelain Cup—Sgl. Pole.....	Dble.	1.30
" " " "	4 Way	1.85
" " " "	"	1.65
" " " "	"	3.85
EXTRAS—For Luminox Tip add 1c Each Head.....		
For Glue Guide Light Switches add for Each.....		1.00

	Price
Comb. One Tumbler Switch & One Flush Recep. with Plate Less Box.	\$2.00
Comb. One Tumbler Switch & One Bulls Eye with Plate Less Box.	3.00
Comb. Switch Tap & Recep. Hubbell 7163-64 Less Plate and Box.	1.60
Comb. Switch Tap & Pilot Light Hubbell 7180-81 Less Plate and Box.	2.65

	1	2	3	4
	Gang	Gang	Gang	Gang
Stamped Brass Sprayed Finish .040 Thick	\$.15	\$.30	\$.45	\$1.35
" " Brush Brass " .040	..20	..40	..60	1.55
" " Sprayed .060	..20	..40	..60	1.70
" " Brush Brass .060	..20	..40	..60	1.85
Bakelite or Composition Molded	..20	..30	..40	..80
Twin & Triple Struck Up Plates	..20	..30	..30	..20
Solid Brass	..20	..50	..50	..20
Hubbell Bakelite Screwless Plates	..60	1.10	1.60	..20
Bryant DeLuxe Wood Inlaid any Finish	2.25	3.60	6.40	..20
All Metal	..85	1.50	2.10	..20
Guth Porcelain Enamel Plates	..30	..65	1.00	..20
Glass Mirror Plates	1.00	1.75	2.50	3.25
Blank Plate .040 Brush Brass Finish	..30	..60	..90	..20
Telephone Plate .040 Brush Brass Finish	..35	..45	..55	..20

Plate & Boxes Extra		Price
Standard Shallow Type Porcelain Cup—Single Pole.....		\$0.38
" " " " Double		1.10
" " " " 3 Way80
" " " " 4		3.00
Deep Type Porcelain Cup—Single Pole.....		1.10
" " " " Double		1.15
" " " " 3 Way		1.15
" " " " 4		3.00
Special High Grade —Single Pole.....		1.15
" " " " Double		1.30
" " " " 3 Way		1.50
" " " " 4		3.00
Lock Type Porcelain Cup—Single Pole.....		1.45
" " " " Double		1.85
" " " " 3 Way		1.85
" " " " 4		8.75
Electrolier Non-Indicating.....		1.75
Indicating.....		1.90
Extra for Luminous Button Add Per Switch.....		.40

[illegible]

Description	1	2	3	4
Stamped Brass Sprayed Finish .040 Thick	\$.15	\$.30	\$.45	\$1.35
" " " " " " " "	.20	.40	.60	1.55
" " " " " " " "	.20	.40	.60	1.70
" " " " " " " "	.30	.60	.90	1.85
Bakelite or Composition	.20	.40	.60	.80
Bryant Deluxe Plates Wood Inlaid	2.25	3.90	6.40
" " " " " " All Metal	.85	1.50	2.10
Guth Porcelain Plates	.30	.65	1.00
Glass Mirror Plates	1.00	1.75	2.50	3.25
Blank Plate .040 Brush Brass Finish	.30	.60	.90
Telephone " .040	.35	.45
Combination Push & Receptacle Plates .060 Brass50
" " " " " " " " Molded40
" " " " " " " " Guth Enameled65
" " " " " " " " Mirror Glass	1.75

METAL COVERED SNAP SWITCHES						
Poles	Volts	T-Type	Size	5 Amp.	10 Amp.	20 Amp.
Single	125	Non-Indicating.....	Pony	\$.35
"	"	Indicating.....	"	.40
"	"	Non-Indicating.....	Standard	.60	\$.75	\$1.45
"	"	Indicating.....	"	.65	.85	1.60
Double	250	Non-Indicating.....	"	1.05	2.25	2.65
"	"	Indicating.....	"	1.00	1.20	2.40
Triple	"	Non-Indicating.....	"	3.00	3.90	4.70
"	"	Indicating.....	"	3.25	4.10	4.85
3-Way	125	Non-Indicating.....	"	1.25	2.40	2.90
4-Way	"	Non-Indicating.....	"	1.35	3.00	6.50
Electroliner	"	Non-Indicating.....	"	1.40	1.40	2.20
"	"	Indicating.....	"	1.55	1.55	2.35

Poles	Volts	Type	Size	5	10	20	30
Single	125	Non-Indicating.....	Pony	Amp. \$.55	Amp.	Amp.	Amp.
	125	Indicating	"	.60
	125	Non-Indicating..... <td>Standard <td>.65 <td>\$.90 <td>\$1.25 <td>\$2.00 </td></td></td></td></td>	Standard <td>.65 <td>\$.90 <td>\$1.25 <td>\$2.00 </td></td></td></td>	.65 <td>\$.90 <td>\$1.25 <td>\$2.00 </td></td></td>	\$.90 <td>\$1.25 <td>\$2.00 </td></td>	\$1.25 <td>\$2.00 </td>	\$2.00
	125	Indicating	"	.75 <td>1.00 <td>1.80</td> <td>2.55</td> </td>	1.00 <td>1.80</td> <td>2.55</td>	1.80	2.55
Double	250	Non-Indicating..... <td>"</td> <td>.95 <td>1.20</td> <td>2.45</td> <td>2.85</td> </td>	"	.95 <td>1.20</td> <td>2.45</td> <td>2.85</td>	1.20	2.45	2.85
	250	Indicating	"	1.10 <td>1.35</td> <td>2.60 <td>3.00</td> </td>	1.35	2.60 <td>3.00</td>	3.00
3-Way	125	Non-Indicating..... <td>"</td> <td>.95 <td>1.35</td> <td>2.60 <td>3.00</td> </td></td>	"	.95 <td>1.35</td> <td>2.60 <td>3.00</td> </td>	1.35	2.60 <td>3.00</td>	3.00
Way	125	Non-Indicating..... <td>"</td> <td>1.50</td> <td>2.00</td> <td>3.00</td> <td>.....</td>	"	1.50	2.00	3.00
Electroliner	125	"	"	1.55	1.55
	125	Indicating	"	1.70	1.70

	Metal or Composition Covers			
	Single Pole	Double Pole	3 Way	4 Way
125-250 Volt				
5 Amp. Closed or Slott. Base.....	\$.35	\$.85	\$.80	\$1.40
5 Amp. with Outlet Box Cover.....	.5500
10 Amp. Closed or Slott. Base.....	.80	1.10	1.25

	Metal Covered		All Porcelain	
	5 Amp. 125 Volts	Non-Indicating	Indicating	Non-Indicating
Single Pole.....	\$.65	\$.60	\$.75	\$.70
Double.....	1.20	1.10	1.20	1.15
Three Way.....		1.00	1.20
Electroliner.....	1.50	1.50

Handles—Standard Type Each	\$.12	—Ratchet Type.....	\$.20	
Bases—Porcelain 5 Amp.	\$.12	—10 Amp. \$.15	—20 Amp.....	.30
Covers—10 Amp & Under Metal	\$.15	—Porcelain.....	.20	
Over 10 Amp.	.30		.30	

PULL CORD SWITCHES—BODIES ONLY		
Small Socket Type		Price
Ceiling—Bottom Pull		\$0.
Wall—Side Pull		.95
Rosette—Side Pull		.93
Fixture—Bottom Pull		1.25
	1/4" Brass Cap	.10
	3/4" Brass Cap	.15
	5/8" Brass Cap	.30
Addition	Small Cleat Base	.35
for	Small Slotted or Concealed Base	.35
Caps and Bases	Large Concealed Base	.35
for	Wood Moulding Base	.35
Above Switch	Small Box Base Brass Covered	.50
Bodies	3/4" Box Base Brass Covered	.60
	4" Box Base Brass Covered	1.10
	3 1/4" Box Cover with Ring	.25
	4" Box Cover with Ring	.25

S. P. with Small Porc. Slotted or Solid B.	\$1.68
D. P. with Small Porc. Slotted or Solid B.	1.90
3 & 4 Point with Small Porc. Slotted or Solid B.	1.90

These switches can be furnished with side or bottom open, at same price.



“Van Dorn”

BENCH DRILL

THESE powerful Van Dorn Electric Drills are mounted in bench stands and can be obtained at such a relatively low price that it is possible to place a Bench Drill at various points in the shop.

This has proven to be practical and time saving, especially in larger shops, as it eliminates the necessity of mechanics losing time walking to other parts of the shop to do a drilling job.

The unit increases the utility of the drill, as it can be quickly and easily attached to or removed from the stand to take care of any drilling operations not requiring the action of a drill press.

The drill is equipped with a powerful Van Dorn-built, universal motor which will operate on both direct and alternating current.

Sold through the Leading Supply Houses

The Van Dorn Electric Tool Co.
Cleveland, Ohio



Why ask a wireman to lift 85 pounds when 30 pounds is plenty

EVERY extra pound you pile on the wireman slows down the job by just that much—

STEELTUBES is light—every pound of excess weight is left out. That means—more man-power left to do the work that really counts . . . good work even in late afternoon hours.

There's no thread cutting with STEELTUBES. It's easy to bend—easy to cut. And the inside surface is coated under pressure with enamel. This enamel is baked to a hard-glassy finish that makes fishing of wires easy.

STEELTUBES carries the Underwriters' Label—and is approved and listed as standard by the Associated Factory Mutual.

Electrical Division

STEEL AND TUBES, INC.

Cleveland, Ohio

(A Unit of Republic Steel Corp.)



STEELTUBES (E. M. T.)* has the same inside diameter as heavy conduit. Made in three sizes ($\frac{1}{2}$ ", $\frac{3}{4}$ " and 1") with diameters and wall thickness shown above. One coupling furnished with each ten-foot length.

✧ STEELTUBES Electrical Metallic Tubing is threadless, strong, light and easy to handle. Costs less to buy. Saves time and money on the job. ✧

Steeltubes



Judge Bean held court and enforced judgment with his compelling Colt

When the West was young, fifty cattlemen appointed an eccentric old character, Roy Bean, to be judge in the tiny village of Eagle West, Texas, on Pecos River. With a coyote and black bear for his porch companions, a single old statute book for his authority, and his saloon and general store for the setting, he held court daily. A trusty Colt, in easy reach, enforced his judgment.

Thus, in those historical days of the West did the Colt often compel respect and keep down disorder, affording the rugged protection that was needed when men lived hard.

Back of every Colt was an organization committed to

improvement and famous for manufacturing precision. Equipment, men and facilities have always been geared to specialize on the building of things mechanical, therefore the decision seven years ago to take over the Noark line of service and meter protection devices was only following out an established company policy and upholding the Colt tradition of offering protection—this time to the electrical industry.

Colt, today, is a part of this industry. For Noark devices, accepted for years, are now Colt made.

Whether on the frontier or in the central station, *Colt protects.*

COLT NOARK

COLT'S PATENT FIRE ARMS MFG. CO.,

Established 1836

Electrical Division, HARTFORD, CONN., U.S.A.

Electrical Division 1886

An inspection of Colt-Noark catalog No. 57 will reveal how thoroughly Colt is carrying on its tradition of service and



protection. This catalog and an interesting publication, "The Rampant Colt," will be mailed upon request.

WHEELER DUREX REFLECTORS WITH THE NEW BAFFLE PLATE

Pat. Applied For**NO LIGHT LOSS**

Now! Even greater industrial lighting efficiency—made possible by Wheeler Engineers. Special Baffle Plate is designed as one piece with Durex Reflectors. Baffle Plate continues contour of reflector to neck of lamp, thus closing reflector neck and directing all light downward. It provides additional reflecting surface, increased light, improved appearance—and prevents any light loss. And combined with this new feature are all the easy wiring advantages that Durex construction has always offered. Your nearest Wheeler representative will gladly give you complete Durex information. » » »

WHEELER REFLECTOR COMPANY, BOSTON, MASS.

NEW YORK

ATLANTA

CLEVELAND

St. Louis, Indianapolis, Los Angeles, San Francisco, Seattle.

Canada: Canadian General Elec. Co., Ltd.

BRONZE - Standards, Newels, Brackets - IRON

LIGHT ENHANCES THE BEAUTY OF ANY BUILDING



Entrance Standard No. 735

THROUGH the aid of decorative lighting, modern architecture has taken on new glory. After dark, light paints the skyscraper in glowing colors, accentuating its beauty. Brackets, newels and entrance standards serve to illuminate the smaller buildings and invest them, too, with the mystic beauty of light.

Whatever you require in the way of exterior lighting fixtures, Union Metal can supply. Hundreds of designs of standard fixtures are available in many different finishes.

For the more pretentious building Union Metal manufactures special designs in cast iron or bronze.

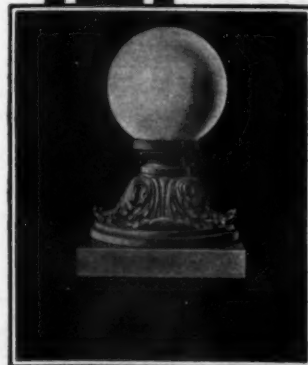
Write for information on either stock or special designs.

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General Offices and Factory: CANTON, OHIO
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Los Angeles, San Francisco, Seattle, Dallas, Atlanta.

UNION METAL
EXTERIOR
LIGHTING FIXTURES

Newel No.
1596



Exclusive—Distinctive
yet popularly priced

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WAKEFIELD

Modern **ist**ic



You can sell the whole modernistic job now—
fixtures as well as wiring.

Wakefield MODERNISTIC comes to you like
any other "Red Spot" commercial unit—ready for
the ceiling. There is nothing "special" about it.

This ultra-modern design is popular—saleable—
profitable. You yourself may not care for it, but
you can sell it. There are in every community a
number of new or redecorated restaurants, tea
rooms, sandwich shops, beauty shops, specialty
shops and such places which appeal to the jazz-
femmes. These establishments want lighting equip-
ment in this modernistic manner—but they want
it at reasonable cost.

You can now give it to them—and make a sweet
profit doing it. Wakefield MODERNISTIC is
ultra-today design at mass production price. Its
distinctive appearance enables you to add more
than the usual mark-up.

*Be a Lighting Specialist and you will make
more money. We'll be glad to help you
get started on this road to profitable spe-
cialization. Simply indicate that you're
interested. Write us today.*

The
F. W. Wakefield Brass Co.
Vermilion, Ohio, U.S.A.

Switches

Switches

MOTOR STARTING SWITCHES

Manual Operated

T-V

Series	Description	Amps	Volts	2 Pole	3 Pole	4 Pole
4151H1	Light Duty Motor Sw. 1/4 HP or Less	30	125	\$ 1.65	.....	.....
9115H3	Motor Switch with Thermal Cutout	30	To 550	.....	\$13.75	\$19.10
4231H	For infrequent Duty	30	220	8.10	9.05	12.85
4246H	For infrequent Duty 5 HP	30	220	12.45	13.05	16.50
4246H	For infrequent Duty 7 1/2 HP	30	440	19.45	23.40	26.55
4246H	For infrequent Duty 7 1/2 HP	60	220	17.10	19.45	26.55
4256	Motor Reversing Sw. Dble. Throw	30	250	13.05	18.90	24.75
4256	Motor Reversing Sw. Dble. Throw	60	250	17.55	22.05	32.40
4256	Motor Reversing Sw. Dble. Throw	100	250	20.25	37.35	64.80

SMALL ENTRANCE SWITCHES

Trumbull Electric Closed or Open Ends

Numbers	Amps	Volts	Fusing	2 Pole	3 Pole
5790 EW Porc. Base	30	125	For 1 Plug Fuse	\$1.65	.....
5791-2-3-4 & 5893	30	125	" Plug Fuses	1.85	\$3.45
5891-5892 Porc. Base	30	125-250	" " "	1.85	2.40
13640-13641 Kappa	30	250	No Fuse-Slate Base	2.75	4.10
13642-43 & 13743 Kappa	30	250	For Enclosed Fuses	2.75	4.35
13221-13321 Quick Break	30	250	" " "	3.65	5.20

"DO-ALL" MAIN ENTRANCE SWITCHES

Trumbull Electric Non Meter Test Solid End Wall

16361 to 16368	30	125-250	For Plug Fuses	\$2.70	\$3.45
16371	30	"	" Enclosed Fuses	3.05	3.75
16381	60	250	" " "	8.45	8.90
16391	100	250	" " "	15.05	15.95

"DO-ALL" METER SERVICE SWITCHES

Trumbull Electric For Meters Open End

16300 to 16309	30	125-250	For Plug Fuses	\$ 2.70	\$ 3.45
16315	30	"	" Enclosed Fuses	3.05	3.75
16330	60	"	" " "	8.45	8.90
16341	100	"	" " "	15.05	15.95

ACCESSIBLE FUSE METER SWITCHES

Trumbull Electric With Test Blades Without End Walls

18111	30	125	For 1 Plug Fuse	\$ 3.25	.....
18211-18311	30	125	" Plug Fuses	3.70	\$4.20
18121	30	125-250	" 1 Enclosed Fuse	3.60	.....
18221-18321	30	"	" Enclosed Fuses	4.45	4.45
18122-222-322	60	"	" " "	15.05	15.95
18123-223-323	100	"	" " "	23.85	25.60

Without End Walls and Without Test Blades

19111	30	125	For 1 Plug Fuse	\$ 3.05	.....
19211-19311	30	125-250	" Plug Fuses	3.35	\$3.70
19121	30	"	" 1 Enclosed Fuse	3.60	.....
19221-19321	30	"	" Enclosed Fuses	4.25	4.25
19122-222-322	60	"	" " "	14.15	15.05
19123-223-323	100	"	" " "	23.00	23.85

SEALED FUSE METER SWITCHES

Trumbull Electric With Test Blades Without End Walls

15827	30	125	For 1 Plug Fuse	\$ 2.20	.....
28111-28211-28311	30	125	" Plug Fuses	3.25	\$ 3.45
28121	30	125	" 1 Enclosed Fuse	3.50	.....
28221-28321	30	125-250	" Enclosed Fuses	3.75	4.00
28122-28222-28322	60	"	" " "	12.85	13.75
28123-223-323	100	"	" " "	21.25	23.00

Without Test Blades

29111	30	125	For 1 Plug Fuse	\$ 2.85	.....
29211-29311	30	125-250	" Plug Fuses	2.85	\$ 3.00
29121	30	125	" 1 Enclosed Fuse	3.15	.....
29221-29321	30	250	" Enclosed Fuses	3.40	3.55
29122-222 & 322	60	250	" Enclosed Fuses	12.00	12.90
29123-223 & 323	60	250	" Enclosed Fuses	20.35	21.20

UNIVERSAL METER SERVICE SWITCHES

Trumbull Electric Without End Walls

9771-123	30	125	For 1 Plug Fuse	\$3.45	.....
972-123	30	125	For 1 Plug Fuse	4.30	.....
973-333	30	125	For 2 Plug " Solid Neu.	\$3.75	.....
975-333	30	125	For 3 Combinations	4.85	4.85
979-333	30	125	For 4 Combinations	4.85	4.85

POLYPHASE ENTRANCE & METER SWITCHES

Trumbull Electric

Series Nos.	Style	30 Amp.	60 Amp.
15321-15623	Acc. Fuse-Test Conn.	\$11.60	\$15.60
17321-17623	Acc. Fuse without Test Conn.	10.95	12.80
26321-26623	Sealed Fuse with Test Conn.	11.50	14.40

Series Nos.	Style	100 Amp.
15321-15623	Acc. Fuse-Test Conn.	\$30.80
17321-17623	Acc. Fuse without Test Conn.	29.05
26321-26623	Sealed Fuse with Test Conn.	27.30

END WALLS, SHUTTERS, TROUGHS, ETC.

Trumbull Electric

End Wall One Piece for Standardized Switches	30 A.	60 A.	100 A.
End Wall One Piece for Polyphase Switches	\$.30	\$.70	\$.70
Shutters for End Walls for Standardized Switches	.40	1.00	1.15
Shutters for End Walls for Polyphase Switches	.15	.30	.30
Troughs 2-3" & 4....	\$.40	5"....\$.45	6"....\$.50
		7"....\$.55	

TYPE "A" SWITCHES

Trumbull Single Throw, Quick Make & Break

Amp	2 Pole AC-DC 3 Pole AC Only	230 Volts—No Fuse
30	72221 \$10.95	72321 \$13.65
60	72222 18.65	72322 18.20
100	72223 20.95	72323 27.30
200	72224 36.40	72324 41.00

Trumbull "SNUF-ARC" TYPE

Amp	Fusable	No Fuse
	2P. 230-575 AC & DC	2P. 575V AC & DC
30	72261 \$16.40	72361 \$20.00
60	72262 17.30	72362 21.00
100	72263 27.30	72363 31.85
200	72264 43.25	72364 52.80

TYPE "C" SWITCHES

Trumbull Single Throw, Quick Make & Break

Amp	2 Pole AC-DC 3 Pole AC Only	230 V. No Fuse
30	40221 \$ 5.40	40321 \$ 6.85
60	40222 8.20	40322 10.00
100	40223 12.75	40323 15.50
200	40224 20.00	40324 26.40

SMALL 30 AMP. MIDGET & TYPE "OO"

Westinghouse Residence Type

Amps. Fused	Dead Fuse Type	Live Fuse Type
	2 Pole	3 Pole
30 Plug	61140 \$ 2.20	60224 \$ 2.70
30 " "	61143 3.25	61142 \$3.45
30 Enclosed	61639 3.50	64371 3.05
30 " "	61145 3.75	61144 4.00
60 " "	61150 15.05	61151 16.00
100 " "	61152 23.85	61153 25.50

METER SERVICE SWITCHES

Westinghouse Type "WK-54" Without End Walls

Amps. Fused	Dead Fuse Type	Live Fuse Type
	2 Pole	3 Pole
30 Plug	61140 \$ 2.20	60224 \$ 2.70
30 " "	61143 3.25	61142 \$3.45
30 Enclosed	61639 3.50	64371 3.05
30 " "	61145 3.75	61144 4.00
60 " "	61150 15.05	61151 16.00
100 " "	61152 23.85	61153 25.50

POLYPHASE METER SWITCHES

Westinghouse "WK-54"

30 Amp. No. 60997 With End Wall	\$11.50	No. 60266 Less End Wall	\$11.00
60 " " 60998	17.50	60267	16.50
100 " " 60999	27.50	60268	26.00

ACCESSIBLE FUSE TYPE

Westinghouse "WK-65" Without End Walls

Amps. Fused	With Test Facilities	Without Test Facilities
	2 Pole	3 Pole
30 Plug	65000 \$ 3.25	65010 \$ 3.05
30 " "	65001 3.70	65011 3.35
30 Enclosed	65003 3.60	65003 3.60
60 " "	65003 4.45	65004 4.45
100 " "	65005 16.80	65006 17.70

POLYPHASE ACCESSIBLE METER SWITCHES

Westinghouse "WK-65"

30 Amp. 3 Pole without End Wall	No. 65100	\$11.20	No. 65103	\$10.35
60 " " " "	No. 65101	20.35	No. 65104	18.60
100 " " " "	No. 65102	30.00	No. 65105	28.15

UNIVERSAL

Westinghouse "WK-57" Meter Service Switches Without End Walls. Sealed Main Fuses.

All 30 Amp. 125 Volt Standardized	For Full Details See Westinghouse Switch Catalog #282	\$3.45
		\$3.45
		\$3.75
		\$3.75
		\$3.75
		\$3.75

Switches

Westinghouse

		30 Amp.	60 & 100 Amp.
One Piece Meter Trims.....		\$0.30	\$0.50
Blank End Wall or Shutter Type End Wall.....		.30	.50
Shutter Type Meter Trim or Adaptor Trim.....		.15	.30
New Universal Trim with slots.....		.30	
Replacement Plate or Adapting Plate.....		.15	
Wiring Trough—2-3 & 4' long.....	\$0.40 5' .45 6' .50 7' .55 8' .60		
Fuse Receptacle #R57252.....			Less Fuses, \$1.25

Industrial Westinghouse "WK-62" Type "C"

250 Volts Fusible				500 Volts AC Fusible			
Amps.	2 Pole	3 Pole		2 Pole	3 Pole		
30.....	#62100 \$ 5.40	#62101 \$ 6.75		#62200 \$ 9.00	#62201 \$ 8.55		
60.....	#62103 8.10	#62104 9.90		#62203 9.90	#62204 10.80		
100.....	#62106 12.60	#62107 15.30		#62206 14.40	#62207 17.10		
200.....	#62109 19.80	#62110 26.10		#62209 28.80	#62210 32.40		

250-500 Volts Non-Fusible				600 Volts Non-Fusible			
Amps.	2 Pole	3 Pole		3 Pole	4 Pole		
30.....	#62047 \$ 7.65	#62048 \$ 8.10					
60.....	#62043 8.10	#62014 8.55		#62054 \$13.05	#62055 \$18.90		
100.....	#62016 10.80	#62017 12.15		#62057 17.10	#62058 26.10		
200.....	#62019 18.90	#62020 22.50		#62060 27.90	#62061 44.10		

Amps.	250 Volts		Fusible		500 Volts		AC Fusible	
	2 Pole	3 Pole	2 Pole	3 Pole	2 Pole	3 Pole	2 Pole	3 Pole
30	#66100	\$10.80	#66101	\$12.60	#66154	\$14.40	#66155	\$18.00
60	#66103	13.50	#66104	17.10	#66157	16.20	#66158	18.90
100	#66106	22.50	#66107	27.00	#66160	25.20	#66161	25.80
200	#66109	32.40	#66110	36.00	#66163	39.60	#66164	42.30
Amps.	250-500 Volts		Non-Fusible		600 Volts		Non-Fusible	
	2 Pole	3 Pole	2 Pole	3 Pole	3 Pole	4 Pole	3 Pole	4 Pole
30	#66050	\$11.70	#66051	\$13.95	#66058	\$17.10	#66059	\$21.60
60	#66053	11.70	#66054	14.40	#66057	22.75	#66058	22.40
100	#66136	19.80	#66137	21.60	#66060	33.30	#66061	36.00
200	#66138	25.20	#66137	30.60	#66060	33.30	#66061	46.80

Noark Closed Ends

Numbers	Amps.	Volts	Fused For	2 Pole	3 Pole
8283.....	30	125	For Plug Fuses.....	\$1.65	
8383-8483-8393.....	30	125		1.65	\$2.50
9083-9093.....	30	125	* Enclosed * Quick Break.	1.80	3.15

Noark Sealed Service SECO Without End Walls

Amps.	Fused For	Test Type				Non Test Type			
		2 Pole		3 Pole		2 Pole		3 Pole	
		No.	Price	No.	Price	No.	Price	No.	Price
30A	Plug.....	9543	\$3.25	9523	\$4.45	8543	\$2.85	8523	\$3.00
30A	Enclosed.....	9563	3.75	9533	4.00	8563	3.40	8533	3.55
30A	Plug & Enc.....	9573	3.50			8573	3.15	8533	2.65
60A	Enclosed.....	9566	12.00	9536	12.75	8566	11.00	8536	12.00
60A	".....	9576	12.00			8576	11.10		..
100A	".....	9561	21.20	9531	23.00	8561	20.35	8531	21.20

Amps.	Fused For	Test Type				Non Test Type			
		2 Pole		3 Pole		2 Pole		3 Pole	
		No.	Price	No.	Price	No.	Price	No.	Price
30A	Plug.....	9343	\$3.25	9323	8343	\$3.05	8323
30A	".....	9353	3.70	9333	\$4.15	8353	3.40	8333	\$3.70
30A	Enclosed.....	9363	4.50	9333	4.45	8363	4.25	8333	4.25
60A	".....	9306	15.05	9336	15.95	8306	14.15	8336	15.05
100A	".....	9361	23.85	9331	25.60	8361	23.00	8331	23.85

	No. 971123	—Without End Walls.....	\$3.45
	" 9723	" " "	4.65
	" 972123	" " "	4.30
	" 973333	" " "	3.75
For Detailed	" 9753 & 9793	" " "	5.20
Description,	" 975333-979333	" " "	4.85
see Noark Catalog			

		2 Pole		3 Pole	
Amps.	Fused For	Numbers	Price	Numbers	Price
30A	Plug.....	913123-911123	\$ 2.70	912333-914333	\$ 3.45
30A	Enclosed.....	923123-921223	3.05	922333-924333	3.75
60A	".....	923126-921226	8.45	925336	8.90
100A	".....	923121-921221	15.05	925331	15.95

Noark Fusible—Quick Break

Amps.	250 Volts Fusible				500 Volts AC Fusible			
	2 Pole		3 Pole		2 Pole		3 Pole	
	No.	Price	No.	Price	No.	Price	No.	Price
30	8322	\$ 2.70	8323	\$ 4.30	8422	\$ 9.00	8433	\$10.95
60	8326	8.10	8326	9.90	8426	9.90	8436	13.65
100	8321	12.60	8321	15.30	8421	14.40	8431	21.85
200	8322	19.80	8322	26.10	8422	28.80	8432	38.25
400	8324	48.60	8324	56.60				

Amps.	Volts	2 Pole		3 Pole		4 Pole	
		No.	Price	No.	Price	No.	Price
30	250	8723	\$ 2.70	8733	\$ 4.05	8743	\$ 8.10
30	500 AC	8823	7.65	8833	8.10	8843	10.80
60	250-500	8826	8.10	8836	10.00	8846	18.20
100	250-500	8831	10.80	8831	18.00	8841	27.30
200	250-500	8832	18.90	8832	29.10	8842	42.75
400	250-500	8834	39.60	8834	54.00	8844	88.40

Single Piece End Wall for 30 Amp. Switches.....	\$.30	For 60 & 100 Amp.....	\$.80
Shutter for 30.....	.15	60 & 100.....	.30
Universal End Wall No. 909103.....	.40		
Blanking Side No. 908103-908203.....	.15		
Trough—3-4 & 5" \$.40—6" \$.45—7".....	.50	8".....	\$.55—9"..... .80
Cabinet Fuse Block No. 902413.....	1.25		

Noark Switches Without End Walls

125-250 Volts			Main Entrance		"Acce" Quad Break		"Seco" Quad Break	
			"Doall" & 3 Wire		Accessible Fuses		Sealed Fuses	
Amps.	No.	Price	No.	Price	No.	Price	No.	Price
30A.....	851233	\$ 4.70	77033	\$10.50	77533	\$10.40		
60A.....	851236	11.70	77036	18.60	77536	15.05		
100A.....	851231	19.30	77031	28.25	77531	24.75		
Meter Service								
30A.....	931233	\$11.05	67033	\$11.15	67533	\$11.05		
60A.....	931236	16.65	67036	20.35	67536	16.80		
100A.....	931231	26.15	67031	30.00	67531	26.50		

Noark Doall Without End Walls

Amps.	Fused For	2 Pole Numbers	Price	3 Pole Numbers	Price
30	Plug Fuses	818123-811123	\$ 2.70	812333-814333	\$ 3.45
30	Enclosed Fuses	853123-851223	3.75	852333-854333	4.30
60	"	853126-851226	8.45	855336	8.90
100	"	853121-851221	18.05	855331	18.50

Noark Fusible—Quick Break

Amps.	Volts	3 Pole-2 Poles		4 Pole-3 Poles		5 Pole-4 Poles	
		No.	Price	No.	Price	No.	Price
30	125-250	8133	\$ 3.15	8143	\$ 8.10	8153	\$ 9.00
60	" "	8136	9.00	8146	11.25	8156	19.80
100	" "	8131	14.40	8141	19.80	8151	35.55
200	" "	8132	22.50	8142	31.50	8152	50.40
400	" "	8134	63.00	8144	81.00	8154	120.60

Bulldog

125 V.-2 Pole-One Blade		No. 111 & 211	BT-TE-TF & TM	\$ 1.60
"	2	" Two	TE-211S	4.00
"	3	" Three	TE-311SB	5.50
"	3	" Three	TE-311S	8.10
"	3	" Three	TE-311SG	7.20
250	2	" Two	TF-211S	7.20
"	3	" Three	TF-321S	8.10
"	3	" Three	TF-321SG	7.65
500-600 V.-3 Pole-Three Blade 3 Fuse Conn.			TF-351S	12.60
250-600 "	2	" Two	TN-261S	5.40
"	3	" Three	TN-361S	7.20
"	3	" Three	TN-361SR	10.80
Motor Starter	3	" TJM-321S & TJM-321SU		9.00

Bulldog Single Throw Fusible Quick Make & Break

250 Volts DC & AC					
Amps.			2 Pole		3 Pole
30	125 Volt only	IF211S	\$ 2.70	IF311S	\$ 4.40
30	Forc. Base	IF215S	3.15	IF315S	5.15
30	and Plates	IF215P	3.15	IF315P	5.15
30	Slide Base	IF221	2.40		
60	"	IF222	8.10	IF322	9.00
100	"	IF223	12.60	IF323	15.90
200	"	IF224	19.80	IF324	25.10
400	"	SF225	48.00	SF325	60.00

Bulldog Single Throw Not-Fusible

Amps.	2 Pole	3 Pole
30	JN215 \$ 3.15	JN315 \$ 4.15
30	250-500-600 Volts	JN351 8.10
60	" " " " { 2 Pole Switches	JN352 10.95
100	" " " " { Supplied in Type	JN353 17.30
200	" " " " { A only. }	JN354 29.15

Amps.	4 Pole
30	JN415 \$ 8.00
30	250-500-600 Volts
60	JN451 10.50
100	JN452 18.20
200	JN453 29.20
200	JN454 47.75

**CHRYSLER BUILDING**

Wired with A-A Red
(Intermediate)

Engineer: Louis T. M. Ralston

Architect: William Van Alen

Contractor: Hatzel & Buehler

In the world's highest building

Up, up, up into the clouds . . . high above the clatter and turmoil of bustling Gotham, the nerve-ends of America's newest, highest building, stretch skyward.

The widespread use of A-A Red (Intermediate) products in hundreds of America's monumental buildings evidences recognition of QUALITY in wires and cables on the part of leading architects and electrical engineers.

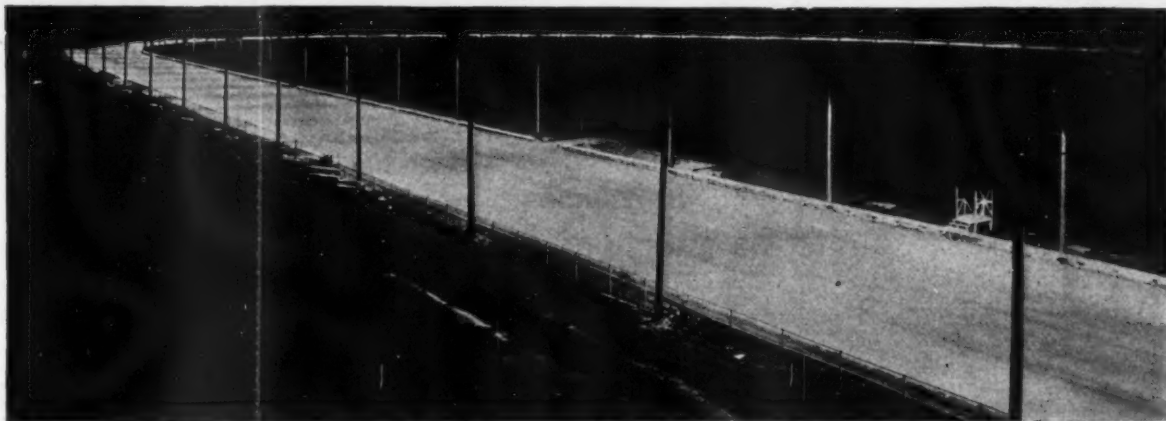
A-A Wires are available promptly in Code, Red (intermediate) and 30 Per-cent.

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Pittsburgh	Los Angeles	Seattle	Denver

A-A WIRE COMPANY DIVISION
OF
GENERAL CABLE CORPORATION





Fort Miami Race Track. 125 R-L-M Dome Reflectors; No. 18576 Holders; 1500-watt lamps. Approximately 10 ft. candle level at stretch.

LIGHTING

Outdoor Areas

THE lighting of the Fort Miami (Toledo) one-mile race track has interested race track operators all over the country because it has demonstrated that night races on a properly lighted track pay—and pay well.

» The Half-Mile at Mansfield, Ohio, followed. All over the country similar opportunities exist. It promises to be a regular business, but no more regular than the lighting of NIGHT TENNIS COURTS and BATHING BEACHES and LUMBER YARDS and yards of manufacturing plants; and ship docks for loading and unloading under safe conditions at night. Nor does it promise to exceed the already very satisfactory business of LIGHTING UP oil and gasoline stations like the Skelly Oil Station illustrated.

All of which says to the lighting equipment salesman in unmistakable fashion: DON'T GET THE IDEA THAT THE LIGHTING BUSINESS FOLLOWS THE SUN and that therefore, there is a lay-off in Summer. Here are concrete examples of where Summer business is possible and in volume that means genuine profits and sound money.

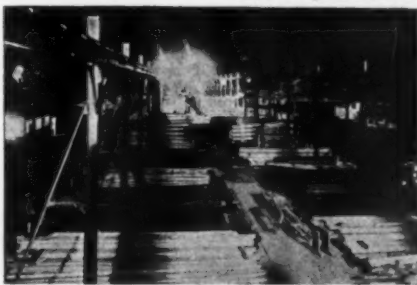
Opportunities like these exist on every side. Ivanhoe Lighting Equipment helps you to cash in on them. And, by the way, there's nothing like a sample installation to crack the order. No longer are people wondering whether or not these types of



Service Station lighted with Ivanhoe No. 952 Glassteels recessed. Job included 48 of these stations in the Mid West.



Tennis Court, West Side Park, Newark, N. J. 28 Ivanhoe Tennis Court Reflectors, average 22 ft. candles over court; approximately 40 ft. candles at net.



Storage yard lighting with Ivanhoe No. 1065 high mounting units.

lighting are practical and profitable. They KNOW it by the experience of others. And there is always an IVANHOE LIGHTING SPECIALIST ready to help you lay out the job; and a stock of materials at hand as near as the nearest Ivanhoe distributor. Get in touch with the nearest Ivanhoe distributor or write

IVANHOE DIVISION of The Miller Company, 5716 Euclid Avenue, Cleveland, Ohio

IVANHOE

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THROUGHOUT the forty years of its manufacture, every effort has been exerted toward making the name "Paranite" mean more than the Underwriters' tag which this fine insulated wire and cable bears.

There *is* a very definite demand from architects, engineers and contractors for a wire with this *extra* measure of quality. It is this demand that Paranite has chosen to meet. And Paranite's success is reflected in its widespread use wherever quality is the determining factor.

Equally important to the contractor is the fact that the same qualities which make Paranite a finer wire, also make it a wire that is easier and more economical to work. If you are not already familiar with the advantages of Paranite, we shall be glad to send you full details upon request

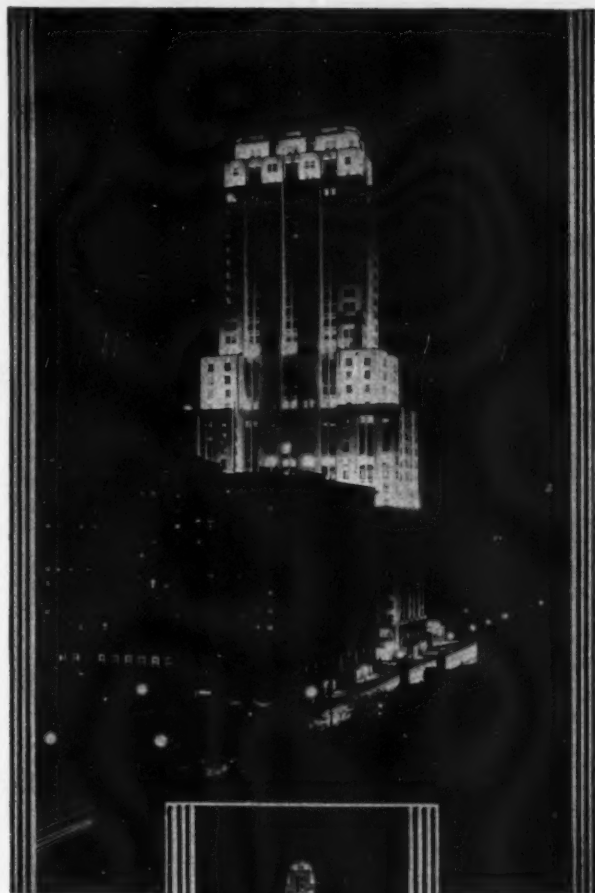


PARANITE

"If It's PARANITE It's Right"

INSULATED WIRES *and* CABLES

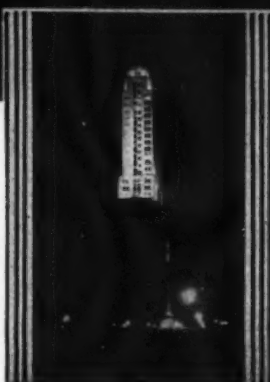
INDIANA RUBBER AND INSULATED WIRE CO.
JONESBORO, INDIANA



The PALMOLIVE

On the corner of North Michigan Ave. and Walton Place, Chicago, stands the Palmolive Building, Chicago's newest and finest skyscraper.

During the daytime it is a very impressive structure giving due credit to the architects who designed it. At night, after the daylight has faded into darkness, this building bursts forth into a monument of exquisite beauty



BUILDING

and brilliance under the glow of Crouse-Hinds floodlights.

The general effect of the lighting is alternate light and dark areas. The light is very intense at the bottom gradually tapering off in intensity until it reaches the thirty-fifth floor, where from there up, it bursts forth in a crowning beacon of light which is visible for miles around.



CROUSE-HINDS



ESTABLISHED 1887
SYRACUSE, N. Y., U. S. A.

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CH 518

Wadsworth

30 Amp. Switches		30 Amp. Switches		30 Amp. Switches		30 Amp. Switches	
No.	Price	No.	Price	No.	Price	No.	Price
3	\$4.90	223	\$2.40	1203	\$3.95	2312	\$4.05
8	1.90	224	3.00	1212	4.00	2323	4.25
12	1.00	238	3.75	1223	4.45	2330	9.15
15	1.25	241	5.05	1250	3.30	2334	9.85
17	3.30	242	4.70	1322	4.15	2351	3.80
21	3.30	243	5.05	1323	4.75	2441	6.55
25	2.20	244	4.70	1401	4.10	2461	6.55
25T	3.10	271	4.00	1402	3.65	2462	6.20
26	2.65	272	4.00	1403	3.95	2463	6.55
27	2.50	273	4.70	1401T	4.60	2464	6.20
30	1.55	274	4.40	1402T	4.05	2534	6.75
31T	2.75	294	4.80	1403T	4.25	2632	3.25
33	1.65	292	4.00	1411	4.60	2633	4.65
33T	2.90	294	5.35	1411T	5.15	2643L	6.25
35	2.50	322	6.20	1412	3.95	2639	4.65
39	3.75	331	4.85	1412T	4.35	3032	11.15
99	4.10	332	6.55	1423	4.40	3033	12.00
100	1.10	340	4.75	1423T	4.60	3532	9.10
101	1.50	341	5.05	1450	3.30	3533	10.00
131	3.90	330	3.20	1450T	3.80	3534	13.30
132	3.30	362	4.15	1451	3.50	3539	10.00
133	3.90	370	4.15	1451T	3.95	3632	16.80
141	4.15	372	4.95	2202	4.50	3633	21.15
142	3.75	380	4.65	2202T	4.90	3634	22.05
143	4.15	382	4.70	2203	4.50	3639	21.10
144	4.55	392	5.05	2203T	4.90	8531	8.90
145	4.95	440	6.20	2212	4.75	8532	8.45
151	3.40	441	6.55	2212T	5.15	8533	9.75
152	3.00	443	6.55	2223	4.75	8534	12.45
153	3.40	461	6.55	2223T	5.15	8539	9.75
154	4.45	462	6.20	2230	10.40	9531	15.45
211	4.15	463	6.55	2234	11.25	9532	13.70
212	3.75	464	6.20	2250	3.85	9533	15.45
213	4.15	633	5.35	2250T	4.25	9534	17.75
214	3.75	734	11.15	2251	3.85	9539	15.45
221	2.65	1013	4.20	2251T	4.25	9862	8.45
222	3.00	1014	6.10	2284	6.20	9863	8.90
		1202	3.65	2294	6.55	9864	13.90

Wadsworth

60 Amp. Switches		100 Amp. Switches		200 Amp. Switches	
No.	Price	No.	Price	No.	Price
6	\$10.45	10	\$12.15	20	\$16.20
101	9.60	102	15.70	522	19.80
102	9.15	110	16.55	523	24.95
103	11.80	111	16.55	722	37.05
171	9.35	112	15.70	723	51.90
172	9.15	113	18.95	724	57.35
503	11.45	513	17.25	729	52.00
1024	13.30	1033	11.55	1042	14.20
1762	16.30	1034	16.50	1043	22.00
1763	22.75	1712	27.35	1044	31.35
1764	21.45	1713	35.40	2622	18.15
1769	21.70	1714	35.00	2623	21.45
1800	13.90	1719	30.90	2624L	40.85
1802	14.75	1900	.....	2629	19.80
1803	15.65	1902	.....	2812	11.55
1812	15.65	1903	.....	2813	14.65
1830	19.10	1912	.....	2819	13.90
1834	20.90	1930	28.70	3212	10.20
1842	15.65	1934	30.50	3213	11.55
1843	16.50	1942	.....	3522	27.20
1851	14.75	1943	.....	3523	31.15
2030	15.65	1951	.....	3524	43.15
2034	17.40	2130	25.20	3529	31.15
2042	13.50	2134	26.95	3622	41.60
2043	14.35	2142	.....	3623	47.35
2051	12.60	2143	.....	3624	53.20
2064	13.80	2151	.....	3629	47.35
2801	8.45	2614	25.60	4603	54.45
2802	8.00	2814L	23.10	4643	59.75
2803	9.30	2819	14.65	4630	64.70
2864L	13.30	3512	14.65	4634	49.75
2869	9.30	3513	17.75	4734	44.50
3162	15.95	3514	25.60	4743	44.50
3163	17.75	3519	17.75		
3262	8.00	3612	24.85	400 Amp. Switches	
3263	8.45	3613	31.95	642	55.45
3562	9.75	3614	35.90	643	67.65
3563	11.55	3619	31.95	742	61.65
3564	13.75	8511	14.65	743	75.13
3669	11.55	8512	12.45	744	91.30
3662	17.05	8513	15.55	749	75.15
3663	22.05	8514	27.50	1052	36.30
3664	24.00	8519	15.55	1053	47.85
3669	22.05	9511	29.30	1054	66.00
8561	8.30	9512	24.35	2542	49.50
8562	8.90	9513	29.30	2543	61.00
8563	10.20	9514	39.00	2544	86.65
8564	14.20	9519	29.30	3542	54.45
8569	10.20	9812	10.65	3543	78.40
9561	18.55	9813	12.00	3544	94.06
9562	14.65	9814	21.45	3549	78.35
9563	18.55			4803	99.00
9564	23.25			4830	129.35
9569	18.55			4834	137.55
				4843	112.20
				4934	113.00
				4943	101.00

EXTRA END WALLS—SHUTTERS—TRIMS—ETC.

Wadsworth		Type of Trim		Knock-out & Shutter	
For 30 Amp.	125 Volt Switches	Flat	Extended	Shutter	Shutter
" 30 "	250	.30	.50	.30	.17
" 60 "	250	.50	.85	.50	.35
" 80 "	250	.65	.83	.65	.45
" 100 "	250	.75	.90	.75	.50
" 100 "	250	.82	1.00	.82	.45
" 100 "	250	.90	1.10	.90	.50
" 200 "	250	1.00	1.15	1.00	.80
" 200 "	250	1.10	1.25	1.10	.55

Murray Switches

ENTRANCE SWITCHES

30 Amp. Number	Volts	Description	With End Walls	Without End Walls
630	125	1 Blade—1 Plug Fuse S. N.	\$1.60	
231-230	125-250	2 " —2 "	1.70	\$2.40
641-2-6	125	For 1 HP—250 V.—AC & DC Motors.	1.80	
643	230	3 Blades 3 Cartridge Fuses S. N.	3.20	
647	125-250	2 " 2 " Sealed Fuses S. N.	2.50	
830	125-250	2 " 2 " Sealed Fuses S. N.	4.00	
831	125-250	2 " 2 " Plug Sealed Fuses S. N.	2.25	
Accessible Main Fuses				
780-782	125-250	2 Plug Fuses 2-2 Wire Branches.	\$5.80	\$6.80
781-783	125-250	4 " 4-2 " " " " "	6.55	7.55
784	125	2 " 1-2 " " " " "	6.60	
785	125	4 " 2-2 " " " " "	7.30	

ACCESSIBLE MAIN FUSE TYPE AA

Amps.	Poles	Fused for	Neutral	No.	Price	Without End Walls	With End Walls
30	2	1 Plug	Fused	755	\$3.25	754	\$3.05
30	2	1 Cart.	"	748	4.20	740	3.60
30	2	2 Plug	"	748	3.70	752	3.35
30	2	2 Cart.	"	737	4.50	757	4.25
30	3	2 Plug	Solid	756	4.20	753	3.70
30	3	2 Cart.	"	742	4.45	758	4.25
30	2	1 Plug	Fused	776	3.25	774	3.05
30	3	2 Plug	Solid	775	4.20	779	3.70
30	3	2 Cart.	"	777	4.45	778	4.25
60	2	1 Cart.	Fused	766	14.20	773	15.05
60	2	2 Cart.	"	764	15.05	762	14.20
60	3	2 Cart.	Solid	765	15.95	763	15.05
100	2	2 Cart.	Fused	769	23.85	768	22.10
100	2	2 Cart.	"	718	23.85	716	23.00
100	3	2 Cart.	Solid	719	25.60	717	23.85

x—Made with cover to permit sealing fuses independent of main cover.

POLYPHASE ENTRANCE & SERVICE

Entrance Amps.	Nos.	Description	With End Walls	Without End Walls
30	790-2	Three Legs Fused.	\$11.00	\$11.60
60	760-9	Four Wire Solid Neutral.	19.40	20.00
100	710-12	All 3 Pole 3 Phase.	29.05	29.95
200	720-22	.....	44.55	51.85
Service	791-3	Three Legs Fused.	\$11.60	\$15.60
30	767-8	Four Wire Solid Neutral.	20.70	23.80
100	711-14	All 3 Pole 3 Phase.	30.80	33.25
200	721-23	.....	51.85	60.75

"UNISAFIT"
(Universal Standardized Switches)

Number	Pole	Fuse	Neutral	Branches & Fusing	Price
235B	2	Single	2-2-Wire	2 Fuses	\$3.25
236	2	"	4-2- " "	2 " "	4.30
237	3	Two	1-3- " "	2 " "	3.75
237	2	"	1-2- " "	2 " "	3.75
237	3	"	2-2- " "	2 " "	3.75
238	3	"	4-2- " "	4 " "	4.85
238	2	"	2-2- " "	4 " "	4.85

METER SERVICE SWITCHES

Fuses & Blades Dead		Sealed Fuses		Without End Walls	
Amp.	Volts	Description	No.	2 Pole Price	3 Pole Price
30	125	For Plug Fuses	232	\$ 2.20	233 \$ 3.35
60	250	For Cart. Fuses	364	12.85	365 13.75
60	250	For Cart. Fuses	368	12.75	
Fuses Alive					
30	125	For Plug Fuses	330-1	\$ 2.65	333 \$ 3.35
30	250	For Cart. Fuses	130	2.65	133 3.35
60	250	" " " "	360	8.45	361-3 8.90
100	250	" " " "	310	15.05	313-4 15.95

SEALABLE MAIN FUSES

Polyphase—3 Wire		Without End Walls	
3 Pole-3 Blades-For Cart. Fuses 250V.	332 \$11.10	362 \$16.80	311 \$26.50

TYPE C-SWITCHES

Fusible	Description	Quick Break			
Amps.	All Cart. Fuse	2 Pole	3 Pole	4 Pole	Price
30		No. Price	No. Price	No. Price	
30	Solid Neutral 125-250	632 \$2.65	633 \$3.75	634 \$6.95	
60		661 6.60	663 7.45	667 9.60	
60	Solid Neutral 125-250	465 6.60	665 7.10	669 7.85	
100		611 10.50	613 12.80	610 19.50	
100	Solid Neutral 125-250	507 10.50	615 11.60	614 19.50	
100		612 12.80	616 13.50		
200		621 18.50	623 22.75	629 40.85	
200	Solid Neutral 125-250	625 19.20			
200		622 22.75	623B 23.70		

END WALLS, PLATES & TROUGHS & ADAPTORS

	30	60	100
	Amp.	Amp.	Amp.
End Wall.....	\$.30	\$.65	\$1.00
Shutter.....	.15	.25	.25
Closure Plate.....	.30	.30	.30
Trough Cover & Adapting Slide.....	.15	.15	.15
Trough 2" 3 & 4".....			\$.40
5".....			.45
6".....			.50
7".....			.55
8".....			.60
9".....			.65
10".....			.75

Switches

Diamond E Switches

SMALL ENTRANCE SWITCHES, 30 AMPS.

Volts	For Fuses	Description	2 Pole	3 Pole
125	Plug	All Fused	P-2 \$1.65	P-3 \$2.75
125	Plug	Ground Neutral	P-2S 1.65	P-3S 2.25
250	Cartridge	All Fused	C-2 2.25	C-3 4.00
250	Cartridge	Ground Neutral	.....	C-3S 2.90

ALL-N-ONE SWITCHES

Live Front	Double Fuse	Dead Front	Single Fuse
No.	Circuits	No.	Circuits
A-2	2	AD-3	3
A-3	3	AD-4	4
A-5	5	AD-5	5
A-7	7	AD-6	6
A-9	9	AD-8	8
		AD-10	10

RANGE & WATER HEATER SWITCHES

60 Amp.—125 Volts

No. 501	No. 502	No. 503	No. 504	No. 505	No. 506	No. 507
\$9.90	\$15.25	\$23.60	\$26.75	\$20.25	\$8.90	\$13.90

MOTOR STARTING SWITCHES

MS-1	30 Amp. 3 Pole 220 Volts Quick Make & Break Toggle.....	\$6.00
C-3P	30 Amp. 3 Pole 250 Volts Not Toggle.....	7.10

SAFE LINE SERVICE SWITCHES

No. 904	Single Pole 4 Circuits with Transformer.....	\$7.85
"	" " " " without Transformer.....	6.60

INDUSTRIAL TYPE

Quick Break—Single Throw—Fused Bottom

Amp.	No.	Price	250 Volts	No.	Price	500 Volts	No.	Price
30	3022	\$ 5.40	3032	\$ 6.75	3042	\$ 7.90	3045	\$ 12.45
60	6022	8.10	6032	9.00	6042	11.65	6045	13.30
100	10022	11.65	10032	13.30	10042	24.10	10045	26.60
200	20022	18.25	20032	24.10	20042	39.75	20045	43.20
400	40022	44.85	40032	61.50	40042	87.20	40045	116.20
600	60022	78.00	60032	91.30	60042	131.10	60045	167.70

Not Fused—Quick Break

Amps.	Pole	Volts	Single Throw—No Fuse	Double Throw—No Fuse
30	2	250 DC	3022N \$ 5.00	3022DN \$ 10.80
30	3	250 DC	3032N 6.30	3032DN 12.45
30	2	500 AC	3025N 8.65	3025DN 13.15
30	3	500 AC	3035N 8.10	3035DN 16.60
60	2	250-500	6025N 8.10	6025DN 13.15
60	3	250-500	6035N 8.55	6035DN 16.60
100	2	250-500	10025N 11.50	10025DN 24.90
100	3	250-500	10035N 11.25	10035DN 30.70
200	2	250-500	20025N 17.00	20025DN 34.85
200	3	250-500	20035N 20.75	20035DN 50.60
400	2	250-500	40025N 49.80	40025DN 99.60
400	3	250-500	40035N 58.00	40035DN 132.80
600	2	250-500	60025N 83.00	60025DN 141.00
600	3	250-500	60035N 99.60	60035DN 163.50

S-SUNDRIES

WOOD SCREWS

Flat Head

Size	Price Per Doz.	Size	Price Per Doz.
1/4"x6 & Smaller.....	\$.05	1 1/4"x12.....	\$.07
1/4"x8.....	.05	1 1/2"x8.....	.07
1/4"x6.....	.05	1 1/2"x10.....	.07
1/4"x8.....	.05	1 1/2"x12.....	.07
1"x6.....	.05	2"x8.....	.07
1"x8.....	.05	2"x10.....	.08
1"x10.....	.05	2"x12.....	.09
1 1/4"x8.....	.06	2 1/4"x8.....	.07
1 1/4"x10.....	.07	2 1/4"x12.....	.07

NOTE—For Round Head Wood Screws Add 30% to above prices.

Electrical Contracting, May, 1930

MACHINE SCREWS

Round or Flat Head

Size	Price per Dozen
1/4" x 1/2".....	Iron \$.05
1/4" x 3/4".....	Brass \$.08
1/4" x 1".....	
1/4" x 1 1/4".....	
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TAPE

FRICTION TAPE

		Per Pound	Per Half Pound	Per 2 Ounce	Per 1 Ounce	Per Foot
Amazon	Friction	\$.65	\$.35	\$.10	\$.05	\$.01
Adhere	"	.65	.35	.10	.05	.01
Bulldog	"	.70	.40	.10	.05	.01
Catact	"	.55	.30	.10	.05	.01
Commodity	"	.60	.30	.10	.05	.01
Dutch Brand	"	.60	.30	.10	.05	.01
Everstick	"	.60	.30	.10	.05	.01
Eaco	"	.95	.50	.15	.10	.02
G. E.	"	.55	.30	.10	.05	.01
Graybar Railway Signal	"	.90	.45	.15	.10	.02
Grimehaw	Friction	2.00	1.00	.25	.15	.03
Holdfast	"	1.00	.50	.15	.10	.02
Holdrite	"	.60	.30	.10	.05	.01
I X L	"	.75	.40	.10	.05	.01
Illinois	"	.55	.30	.10	.05	.01
Iohas Manville Armature	"	1.75	.90	.20	.10	.02
Iomasco	"	1.00	.55	.15	.10	.02
"	"	1.35	.70	.20	.10	.02
"	No. 5	.60	.30	.10	.05	.01
"	No. 6	.55	.30	.10	.05	.01
Jaxon	"	.60	.30	.10	.05	.01
Leader	"	.70	.35	.10	.05	.01
Manson	"	1.30	.65	.20	.10	.02
Magnet	"	.75	.40	.10	.05	.01
O. K.	"	.60	.30	.10	.05	.01
P & B	"	1.00	.50	.15	.10	.02
Peerless	"	.60	.30	.10	.05	.01
Service	"	.90	.45	.15	.10	.02
Stanpat	"	.55	.30	.10	.05	.01
Sticks	"	.55	.30	.10	.05	.01
Security	"	.55	.30	.10	.05	.01
Victor	"	.55	.30	.10	.05	.01
Vim Grav.	"	1.10	.60	.15	.10	.02

RUBBER TAPE

		\$1.00	\$1.50	\$1.15	\$1.10	\$1.04
Amazon	Rubber	1.20	.60	.15	.10	.04
Alexall	"	1.10	.50	.15	.10	.04
Alpha	"	.60	.30	.10	.05	.03
Brooklyn	"	.70	.35	.10	.05	.03
Catact	"	.70	.35	.10	.05	.03
Dutch Brand	"	.60	.30	.10	.05	.03
Eleco	"	.60	.30	.10	.05	.03
G. E.	"	.60	.30	.10	.05	.03
Graybar Victor	"	.60	.30	.10	.05	.03
Holdfast	"	1.00	.50	.15	.10	.04
Imperial	"	.60	.30	.10	.05	.03
Illinois	"	.60	.30	.10	.05	.03
Okonite	"	1.65	.85	.20	.10	.04
Para	"	.75	.40	.10	.05	.03
Pittsburgh	"	.60	.30	.10	.05	.03
Relio	"	.60	.30	.10	.05	.03
Security	"	.55	.30	.10	.05	.03
U. S. Rubber	"	.65	.35	.10	.05	.03
Twins Tape Rubber & Friction	"	.75	.40	.10	.05	.03
USCO Westinghouse	"	.90	.50	.15	.10	.04

COUCH TELEPHONES

VESTIBULE TYPE

No. 74 Armored Cord Receiver Type	\$25.00
No. 74A Swing Arm Receiver Type	37.30
No. 74C Cordless Loud Speaker Type	30.75
Above prices are for telephones complete but do not include for any call buttons.	
Add for buttons—Janitor Calling Buttons if fitted	\$.95
Add for Each Suite Calling Button	.95

SUITE TELEPHONES

Series 2800 to 2849 or 1900 to 49	Page 22 Bulletin No. 89 S. H. Couch Co.			
Number of Buttons..... 0	1	2	3	4
Price Ea. Surface or Flush \$11.40	\$11.40	\$12.45	\$13.60	\$14.60

TELEPHONE CABLES

Number of Conductors	Number	Price per Foot	Lead Covered Type "L"	Number	Price per Foot
8	B-8	\$.14	L-8		\$.18
12	B-12	.15 1/4	L-12		.21
16	B-16	.18	L-16		.27
21	B-21	.22	L-21		.29
25	B-25	.24	L-25		.32
31	B-31	.27	L-31		.39
37	B-37	.30	L-37		.44

TIME SWITCHES

GENERAL ELECTRIC TIME SWITCHES

10 Amp. Indoor Only Any Cycle	110 Volt	220 Volt
20 " " " or Outdoor—60 Cycle without Cutout	\$20.00	\$21.00
20 " " " "—25-40-60 Cy.	40.00	41.00
Extra for Cutout on 20 Amp. Switches	4.00	4.00

HARTFORD TIME SWITCHES

Type B Single or Double Pole	10 Amp.	20 Amp.	35 Amp.	50 Amp.
Type B Triple Pole	\$36.00	\$39.00	\$42.00	\$50.00
Type C & D Single or Double Pole	38.00	41.00	45.00	
Type C & D Triple Pole	39.00	42.00	47.00	52.00
Type G Apt. Hall Light Control D.P.	41.00	45.00	49.00	
	38.00		60.00	

PARAGON TIME SWITCHES

For Indoor or Outdoor Use	10 Amp.	20	30	50
Double Pole (Sunday Shut Off \$5.00 Extra)	\$40.00	\$45.00	\$47.00	\$50.00
Triple Pole (Sunday Shut Off \$5.00 Extra)	45.00		50.00	

RELIANCE & RACINE SWITCHES

Racine Type 1R-2R	10 Amp.	20 Amp.	30 Amp.	50 Amp.
Reliance Type 10-20-30-50	\$19.50	\$23.00		
Reliance Type 15 Triple Pole	28.00	30.00	\$32.00	\$36.00
Apartment House Types A-B-C-D-E-F-G	30.00	32.00		

SAUTER TIME SWITCHES

No.	Amps.	Poles	Description	Price
101	2	1	Clock operated, key wound 40 day clocks	\$ 52.00
111	10	1	" " " " " 40 " "	56.00
121	15	2	" " " " " 40 " "	60.00
201	2	1	Self winding	74.00
211	10	1	" " " " " " " "	80.00
221	10	2	" " " " " " " "	85.00
321	25	2	Motor operated self winding clocks	105.00
341	40	2	" " " " " " " "	110.00
401	100	2	Motor operated Oil Break self winding clocks	190.00
431	200	2	" " " " " " " "	250.00
461	300	2	" " " " " " " "	280.00

TORK TIME SWITCHES OR CLOCKS

Description	Indoor	Outdoor	Switchboard
Single Pole 15 Amp. 125 Volt	\$115-\$20.00	\$215-\$25.00	\$115-\$19.00
Double " " 250 "	\$170-\$25.00	\$230-\$30.00	\$170-\$24.00
Single " Double Throw	\$136-\$25.00	\$266-\$30.00	\$136-\$24.00
Dbble. Pole 30 A. 250 V. Windless	\$730-\$60.00	\$830-\$65.00	\$730-\$58.00

Contactors and Clock Combination

\$76062-60 Amp. 2 Pole AC.	\$50.00	\$75062-60 Amp. 2 Pole DC.	\$ 70.00
\$76102-100 " " DC.	75.00	\$75102-100 " " DC.	125.00

ZENITH TIME SWITCHES

	10 Amp.	20 Amp.	30 Amp.	60 Amp.	100 Amp.	200 Amp.
Model #110 Closed Face	\$20.00	\$23.00	\$26.00			
Model #134 Open Face						
Jewel Mov. 8 Day...	26.00	28.00	30.00			
Electri. Operated Type	25.00		46.00	\$55.50	\$77.50	\$110.00
Remote Control AC.			16.50	22.50	42.50	75.00
" DC.			23.50	29.00	55.00	93.00

NOTE—Add \$2.00 For Model 110 with Open Face Visible Dial.
3.00 " " 110 for Weatherproof Cabinet.

TRANSFORMERS

BELL & TOY TRANSFORMERS

			Secondary		50 to 133 Cycle		25 to 40 Cycle	
Name	Style	Watt	Volts	No.	Price	No.	Price	
EDWARDS	Steel Clad Bell	25	Single	86	\$ 1.25	86	\$ 1.45	
	"	25	Three	86T	1.55	86T	1.75	
	Porcelain Bell	25	Single	87	1.55	87	1.75	
	Out. Box Bell	25	Single	86ER	1.55	86ER	1.75	
	Heavy Duty	75	8-16-24	88	4.25	88	4.65	
	"	100	"	89	6.40	89	7.00	
	"	100	"	90	7.40	90	8.15	
	Toy	50	3 to 18	870	3.50	870	4.20	
	"	75	3 to 24	871	5.85	871	7.00	
	"	100	2 to 30	872	8.75	872	10.50	
.....								
G. E.	Bell Residence		12 Volt	2332	1.00	192340	1.45	
	Box Type		12	2488	1.40	2490	1.75	
	Heavy Duty	50	8-16-24	2335	4.53	2330	7.00	
	"	100	10-18-30	2336	6.95	2340	11.30	
.....								
JEF-FERSON	Wizard	25	10 Volt	230-101	1.00	230-102	1.15	
	Necode	25	10 Volt	230-111	1.40	230-112	1.65	
	Tri-Volt	25	6 to 18V.	230-121	1.40	230-122	1.65	
	Porcelain			230-131	1.40			
	Little Jeff Toy	50	5 1/4-13	535-101	3.65	535-102	4.30	
	Midwest Toy	75	5 1/4-22	535-121	4.45	535-122	5.60	
	Model 2 Toy	100	5 1/4-23	535-131	6.75	535-132	8.40	
	Model 3 Toy	150	1-30	535-141	8.65			
	Heavy Duty A	50	6 to 20	231-101	5.10	231-102	7.25	
	" B	75	6 to 20	231-111	7.70	231-112	10.30	
	" G	100	6 to 24	231-171	8.90	231-172	10.00	
	" E	250	8 to 24	231-141	21.00	231-142	26.40	

NOTE: For 220 Volt Transformers add 20% to above prices.

WIRES

Special Price on No. 14 S.B. Wire

Special Price on No. 12 S.B. wire				Per Foot
In less than Coil Lots.....				\$.01½
In Coil Lots.....				.01
	Other Sizes	Price Per Foot		
		No. 18	No. 16	No. 14
Fixture Wire Light.....		\$.01	\$.01½	
" Heavy.....		.01½	.01½	
Solid Single Braid.....		.01½	.01½	See Above
" Double.....		.01½	.01½	\$.02
Stranded Sgle. Braid.....		.01½	.01½	.02
" Dble.....				.02½
Duplex Single Braid.....				.04
" Double.....				.05
	Other Sizes	Price Per Foot		
		No. 12	No. 10	No. 8
Fixture Wire Light.....				
" Heavy.....				
Solid Single Braid.....	\$.02	\$.03	.04	\$.06½
" Double.....	.02½	.03½	.04½	.07
Stranded Sgle. Braid.....	.02½	.03½	.05	.07
" Dble.....	.03	.03½	.05½	.07½
Duplex Single Braid.....	.05	.06	.08½	.13
" Double.....	.06	.07	.09½	.14

LARGER SIZES DOUBLE BRAID STRANDED

Size	Price Per Foot	Size	Price Per Foot
No. 8 D. B.	\$.06½	No. 0.	\$.23
No. 6 D. B. ....	.07½	No. 00. ....	.27
No. 4 D. B. ....	.10½	No. 000. ....	.33
No. 3 D. B. ....	.12	No. 0000. ....	.40
No. 2 D. B. ....	.13½	250,000. ....	.48
No. 1 D. B. ....	.19		

CIRCULAR MILL CABLE

Size	Price Per Foot	Size	Price Per Foot
300,000 C. M.	\$.57	700,000 C. M.	\$1.27
350,000 C. M.	.66	750,000 C. M.	1.31
400,000 C. M.	.74	800,000 C. M.	1.45
450,000 C. M.	.83	900,000 C. M.	1.60
500,000 C. M.	.90	1,000,000 C. M.	1.77
600,000 C. M.	1.10		

Additions to Code Wire for 25% (Intermediate Grade) and 30% Wire.

Sizes	For Intermediate or 25% Wire	For 30% Wire
From No. 14 to No. 1.....	5%	10%
From No. 1/0 to 4/0.....	3%	6%
From 250,000 to 400,000 CM.....	2%	5%
From 500,000 to 1,000,000 CM.....	1 1/2%	3%

WEATHERPROOF WIRE

	No. 18	No. 16	No. 14	No. 12	No. 10	No. 8	No. 6
Per Pound Solid.....	\$.64	\$.60	\$.61	\$.59	\$.55	\$.51	\$.50
" " Stranded.....					.63	.56	.53
Per Foot Solid.....	.01	.01½	.02	.02½	.03	.04	
" " Stranded.....	.01½	.01½	.02½	.03	.03½	.04½	
Number Feet Per Pound...	90	70	40	30	20	13	

EXTRAS—For slow burning W. P. Wire—Per Pound Extra.....	\$.01
For Twisted Pair W. P. Wire—Per Pound Extra.....	.02
For Double Braid W. P. Wire—Per Pound Extra.....	.01
For Medium Hard Drawn—Per Pound Extra.....	.00 1/2

For Armored Cables See Page PL-9.

ANNUNCIATOR—TELEPHONE WIRE, ETC.

		Description	No. 18	No. 10
Fixture	Solid	Light 1/4 Per Foot.....	\$.01	\$.01 1/2
Wire	"	Heavy 1/4 " " .....	.01 1/2	.01 3/4
	Stranded	Light 1/4 " " .....	.01 1/2	.01 3/4
	"	Heavy 1/4 " " .....	.01 3/4	.01 7/8

Description		Annunciator Wire			
		No. 18	No. 16	No. 14	No. 12
Single	Per Pound.....	\$.70	\$.68	\$.65	.....
	Per Foot.....	.004½	.004	.01½	.....
Twisted or Duplex	Per Pound.....	.75	.70	.68	.....
	Per Foot.....	.01	.01½	.03	.....

Office & Damp Proof Wire				
Single	Per Pound.....	.80	.75	.70
"	Per Foot.....	.01	.01½	.02
Twisted or Duplex	Per Pound.....	.85	.80	.84
"	Per Foot.....	.02	.03	.04

	"Deltabeston" or similar				
Single Stranded Black Per Foot.....	.02	.03	\$.04		\$.05
Single Stranded Colored Per Foot.....	.02	.03		.04 ½	
Single Glazed Cotton Per Foot.....	.03	.04		.05	.06
Single Artificial Silk Per Foot.....	.04	.05	.05		
Duplex Glazed Cotton Per Foot.....	.07	.08			
Duplex Artificial Silk Per Foot.....	.08	.09	.10		
Twisted Pair Glazed Cotton Per Foot.....	.07	.08			
Twisted Pair Artificial Silk Per Foot.....	.08	.09	.10		

Asbestos Range Wire					
Description	No. 16	No. 14	No. 12	No. 10	No. 8
Asbestos Range Wire or Switch Board Wire					
Single Solid—Per Foot.....	\$.08	.10	.11	.12	.15

Electrical Contracting, May, 1930

COVERED TELEPHONE WIRES

No.	Size	Description	Per Foot
No. 22	$\frac{1}{16}$	Twin Pair Plain Pothead Copper Wire.....	\$.03 $\frac{1}{2}$
No. 22	$\frac{1}{16}$	Twin Pair Flame Proof Copper Wire.....	.04
No. 22	$\frac{1}{16}$	3 Conductor Wst. Elct. Flameproof Jumper Wire (Enam.).....	.04
No. 19	.085	Twin Pair Plain Flame Proof Copper Wire.....	.04
No. 19	$\frac{1}{16}$	Twin Pair Plain Dry Braid Interior Copper Wire (Olive).....	.02
No. 19	$\frac{1}{16}$	3 Conductor Ditto.....	.03
No. 18	$\frac{1}{16}$	Twin Pair, Bridlewire, Saturated Braid.....	.04
No. 18	$\frac{1}{16}$	Twin Pair Outside of Bridle, Saturated Braid.....	.04

Note—For Prices of Sgls. Conductor use $\frac{1}{2}$ of above prices per foot.

GALVANIZED TELEPHONE WIRE

Size BWG		No. 4	No. 6	No. 8	No. 10	No. 12	No. 14
EBB Extra Best	Per Pound...	\$.13	\$.13	\$.13	\$.13	\$.14	\$.15
B. B. Best Best	" "...	.12	.12	.12	.12	.13	.14
Steel	" "...	.11	.11	.11	.11	.12	.13
Weight Per 1000 Feet.....		153	112	74	49	32	19
Weight Per Mile.....		811	590	390	258	170	90

WIRE, MAGNET
Price Per Pound

Size	Single Cotton	Double Cotton	Single Silk	Double Silk	Plain Enamel- ed	Enamel- ed Single Cotton	Enamel- ed Double Cotton
8	\$.83	\$.86	.....	.....	\$.83	\$.87	\$.88
10	.84	.87	.....	.....	.84	.88	.92
12	.86	.89	.....	.....	.85	.89	.94
14	.88	.93	.....	.....	.86	.91	.95
16	.89	.95	\$ 1.30	\$ 1.30	.87	.93	.97
18	.93	1.02	1.35	1.60	.91	.99	1.20
20	1.00	1.11	1.50	1.80	.93	1.08	1.23
22	1.10	1.17	1.60	1.90	.95	1.11	1.30
24	1.15	1.34	1.70	2.15	.98	1.21	1.40
26	1.26	1.50	1.80	2.25	1.04	1.36	1.70
28	1.42	1.73	1.95	2.70	1.13	1.56	2.00
30	1.60	1.99	2.70	3.60	1.21	2.05	2.35
32	2.26	2.84	3.40	5.00	1.52	2.36	3.05
34	3.06	4.98	4.00	6.70	2.10	4.20	4.90
36	3.40	4.50	5.90	8.40	2.10	4.50	6.15
38	5.50	7.20	8.60	14.00	.....	.....	.....
40	7.90	11.50	14.10	19.85	.....	.....	.....

NOTE: For odd sizes use half the increase of next larger size.
For $\frac{1}{4}$ lb. lots use one third of above prices.
For one ounce lots use one tenth of above prices.

	Price Per 100 Feet							
Size	Single Cotton	Double Cotton	Single Silk	Double Silk	Plain Enamel-ed	Enamel-ed Cotton	Enamel-ed Single	Enamel-ed Double Cotton
8	\$4.50	\$5.00	.....	.....	\$4.20	\$4.90	\$5.05	.....
10	2.75	2.90	.....	.....	2.60	2.90	3.00	.....
12	1.85	2.00	.....	.....	1.70	2.00	2.00	.....
14	1.60	1.80	.....	.....	1.60	1.90	1.95	.....
16	.92	.95	\$1.10	\$1.20	.90	.95	1.15	.....
18	.60	.65	.70	.82	.50	.65	.82	.....
20	.45	.50	.68	.65	.40	.50	.65	.....
22	.35	.38	.42	.45	.30	.40	.45	.....
24	.24	.26	.32	.30	.20	.30	.37	.....
26	.15	.17	.20	.25	.13	.17	.20	.....
28	.10	.15	.15	.20	.10	.15	.18	.....
30	.10	.12	.12	.15	.10	.12	.15	.....
32	.10	.12	.12	.14	.10	.12	.14	.....
34	.10	.12	.12	.14	.10	.12	.14	.....
36	.10	.12	.12	.14	.10	.12	.14	.....
38	.10	.12	.12	.14	.10	.12	.14	.....
40	.10	.12	.12	.14	.10	.12	.14	.....

Note: Prices per 100 feet are higher than per pound rate to cover cost of measuring and should be used only for small lot sales.

LEAD & RUBBER COVERED WIRE AND CABLE

Size		Single Conductor		Duplex		Three (3) Conductor		
No.	Price	Per Foot	Solid \$.05	Stranded \$.06	Solid \$.08	Stranded \$.09	Solid \$.15	Stranded \$.19
No. 12	"	"	.06	.07	.11	.13	.20	.22
No. 10	"	"	.09	.10	.14	.15	.24	.30
No. 8	"	"	.10	.11	.16½	.18	.30	.34
No. 6	"	"	.17	.18	.27	.31	.40	.48
No. 4	"	"	.....	.22	.....	.40	.....	.63
No. 3	"	"	.....	.23	.....	.....	.....	.....
No. 2	"	"	.....	.29	.....	.55	.....	.80
No. 1	"	"	.....	.35	.....	.70	.....	1.25
No. 1/0	"	"	.....	.40	.....	.80	.....	1.34
No. 2/0	"	"	.....	.44	.....	.90	.....	1.45
No. 3/0	"	"	.....	.50	.....	1.10	.....	1.75
No. 4/0	"	"	.....	.60	.....	1.40	.....	2.15
350,000 C. M.	Cable	"	.....	.73	.....	.....	.....	.....
300,000 C. M.	"	"	.....	.83	.....	.....	.....	.....
350,000 C. M.	"	"	.....	.93	.....	.....	.....	.....
400,000 C. M.	"	"	.....	1.02	.....	.....	.....	.....
500,000 C. M.	"	"	.....	1.22	.....	.....	.....	.....
600,000 C. M.	"	"	.....	1.50	.....	.....	.....	.....
700,000 C. M.	Cable	"	.....	1.70	.....	.....	.....	.....
750,000 C. M.	"	"	.....	1.80	.....	.....	.....	.....
800,000 C. M.	"	"	.....	1.90	.....	.....	.....	.....
900,000 C. M.	"	"	.....	2.10	.....	.....	.....	.....
1,000,000 C. M.	"	"	.....	2.25	.....	.....	.....	.....

NOTE: Above prices are based on following quantities:
No. 16 to No. 8 Less than 100 ft. No. 6 and larger less than 50 ft.

PARKWAY CABLES

Size	Steel Taped		Non-Metallic	
	2 Cond.	3 Cond.	2 Cond.	3 Cond.
No. 14 per ft.....	\$.32	\$.45	\$.16	\$.20
No. 12 " " " " " "	.36	.50	.18	.23
No. 10 " " " " " "	.41	.64	.20	.25
No. 8 " " " " " "	.48	.74	.22	.31
No. 6 " " " " " "	.56	.78	.33	.46
No. 4 " " " " " "	.70	1.07	.42	.55
No. 2 " " " " " "	.85	1.35	.53	.79
No. 0 " " " " " "	1.04	1.68	.68	.98
No. 0 " " " " " "	1.27	1.88	.77	1.14

NOTE: Prices on Parkway Cables are based on Trade costs in quantities of less than 100 Feet. Larger quantities take lower prices. Consult your jobber.



A NEW FLOOD-O-LITE, *Senior* FOR 500 WATT LAMPS

New, Improved Design Universal Adjustment

For 300-500 Watt PS Lamps. Equipped with Sterling guaranteed silvered glass Reflector, and flange base for attachment to walls, ceilings or transom bars.

MAIL COUPON NOW

Reflector & Illuminating Co.
1415 Jackson Blvd., Chicago, Ill.

Please mail us complete information on your new FLOOD-O-LITE SENIOR No. 4010.

Name.....

City..... State.....

"It Penetrates the *Brightest* Show Windows"

FLOOD-O-LITE SENIOR *gets through*. This new Spot Light has a concentrated beam strong enough to *penetrate* the highest intensity of general illumination used in window displays. It "spots out" and accentuates objects in a manner that is tremendously valuable in stimulating sales.

This wonderful new unit furnishes another Sterling opportunity in providing a new and better spot-light service... more effective and more efficient than any available heretofore.

Reflector & Illuminating Co.
Manufacturers & Engineers

1415 Jackson Blvd. Chicago, U. S. A.

REPRESENTATIVES IN ALL PRINCIPAL CITIES

(Continued from page 45)

ventilation, heating or control equipment and have organized a course to consist of a series of possibly sixteen lectures covering a period of four months—April and May of this spring and September and October of next fall.

This course was especially intended for contractors and the full cooperation of the Contractor-Dealers' Association in Milwaukee was secured and the course sponsored by the league in conjunction with the Electricists chapter. All of the motor manufacturers with factories or representatives in Milwaukee were invited to participate in this movement. The opportunity for enrolling in the course as a student or participating in the way of providing a speaker was limited to companies who had membership in the league. The following schedule covers the first series on motors:

1. D. C. Motors.
2. A. C. Single phase motors.
3. A. C. Polyphase motors.
4. Power factor correction.
5. Arc welding.

The subjects are to be covered in five nights and the speakers to cover each have been selected among those best qualified from the various companies.

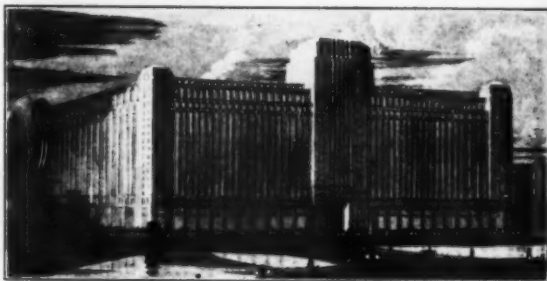
The second series covering control equipment has been prepared in a similar manner and the schedule for that is as follows:

1. Manually operated d.c. control equipment.
2. Automatically operated d.c. control equipment.
3. A. C. across-line controllers.
4. A. C. multi-speed and slip ring controllers.
5. A. C. reduced voltage controllers.
6. A. C. special control apparatus.

The outlines for the other two series have not as yet been prepared.

Ninety-two registrations were received with an attendance of seventy-one at the first night's meeting. A registration fee of \$2.00 is made, and \$1.00 to be returned upon an 80 percent attendance record. Also, each individual is charged with the responsibility of putting his knowledge into practice by reporting on the value of the course which he receives in the way of additional business directly as a result of this activity.

The Choice of Contractors on large buildings

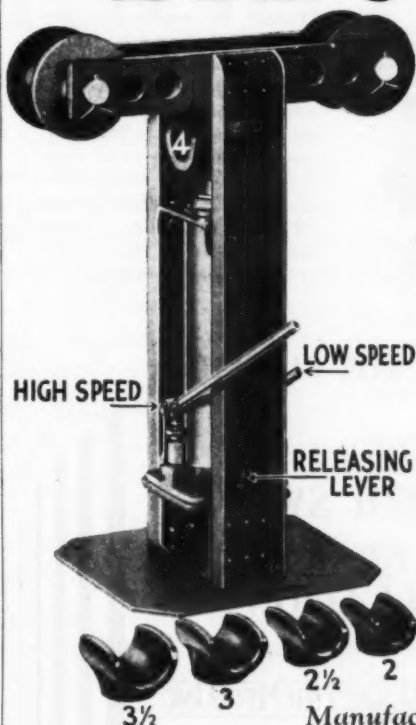


The No. 4 Chicago Bender bends and straightens conduit, pipe, tubes and bars faster and most efficiently. . . . That is why contractors on such large buildings as the Merchandise Mart and Board of Trade building in Chicago and the Chrysler building

in New York found it most practical . . . with maximum safety for men and work. Equipped with five bending shoes—2", 2½", 3" 3½" and 4". Weighs only 310 lbs., less equipment, and is easily transported from one job to another.

LIDSEEN

NEW IMPROVED 30-TON HYDRAULIC PIPE BENDER



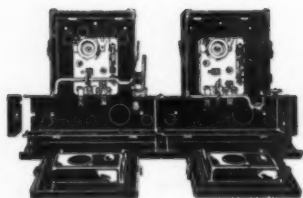
enables one man to exert hydraulic power up to 30 tons, easily bending conduit or pipe to any radius by simply adjusting rollers. . . . So easy to operate that an inexperienced man soon masters it. To lower, simply turn release valve and the load settles down at a smooth controlled speed to any point. Order today from your jobber, or write us direct.

Complete shipping weight,
Crated, 650 lbs.

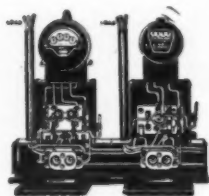
Manufactured by

GUSTAVE LIDSEEN, Inc.
832-840 So. Central Ave. Chicago, Ill.

Install a WADSWORTH SWITCH



No. 1451-T
Accessible Fuse Channel
Banking Type



No. 372-362
Sealed Fuse Channel Bank-
ing Type Showing Branch
Fuses in same cabinets

NO COMEBACKS NO COMPLAINTS

And in less time, you can make a much neater installation! In the Channel Banking Type Switches—there is ample wiring space in the Channel for service and load wires, the Channel is continuous throughout the entire length of the bank, there's no troughs conduit and fittings between switches. This feature assures a degree of *neatness and ease of installation* that only a WADSWORTH SWITCH can offer. Order your stock from your jobber . . . or write us today!

WRITE TODAY FOR BULLETINS

THERE'S A
WADSWORTH SWITCH
FOR EVERY
INSTALLATION

The WADSWORTH ELECTRIC MFG CO INC.
Covington, Kentucky

Evansville Association Indicted

The Evansville (Ind.) Society of Electrical Contractors was indicted by the March grand jury on a charge of monopoly of electrical construction and fixture sales. Shortly after the indictment was returned the association disbanded.

* * *

Investigates New York School Wiring

During the early part of April an investigation was conducted by the district attorney of New York City into charges that a small group of electrical contractors had been enjoying a virtual monopoly of school wiring at prices much higher than those prevalent in the building industry.

In a letter to the secretary of the Board of Estimate on April 14 the district attorney states that his investigation showed that a conspiracy had existed between labor and certain contractors to increase wiring prices but that it had ceased several weeks ago.

* * *

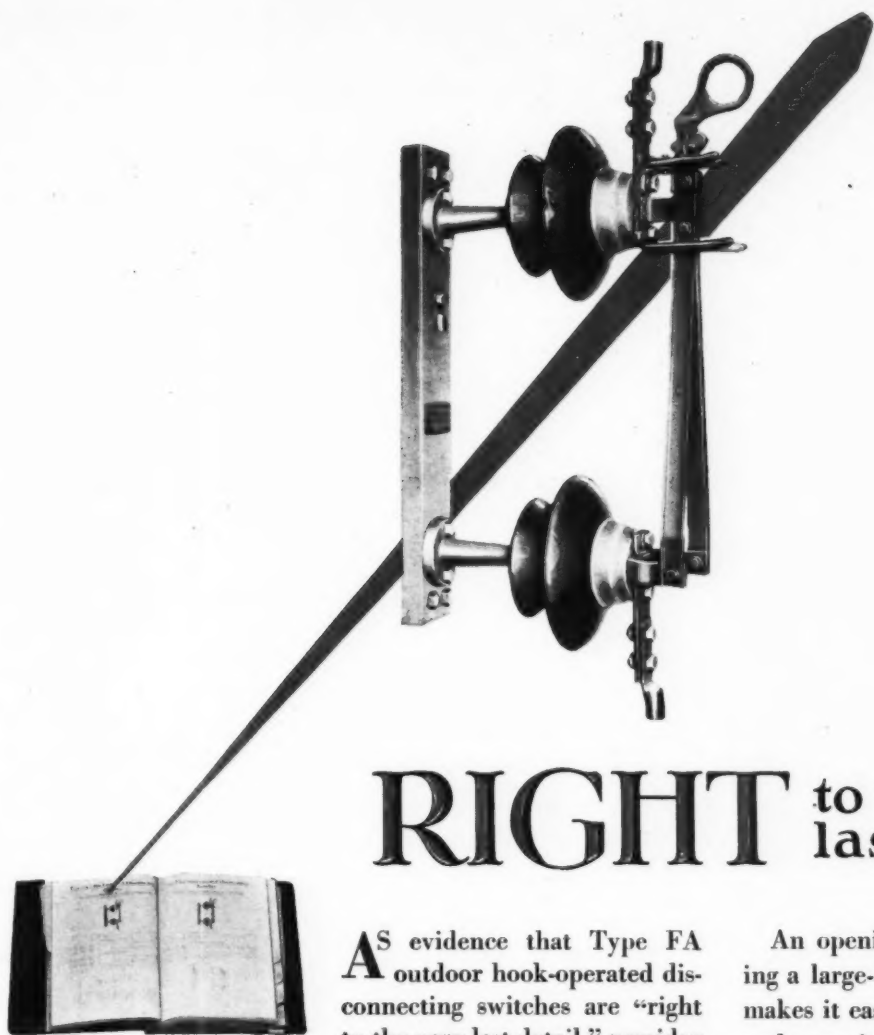
To Draft County Electrical Ordinance

The San Joaquin County (Calif.) Board of Supervisors, at the instance of the San Joaquin Farm Bureau and the Farmers Mutual Fire Insurance Association, recently authorized its attorney to prepare an ordinance which will provide for county electrical inspection. The ordinance will provide that all public buildings must be inspected and all others have the inspection available.

* * *

Norristown Contractors Form Association

The electrical contractors of Norristown, Pa., have formed an association known as the Electrical Contractors Bureau. This association is fostered by the Chamber of Commerce of Norristown and each member of the association must be a member of the Chamber of Commerce. Mr. Seabrook, secretary, is also the secretary of the Chamber of Commerce. The officers of the association are William J. Hogan, president; Mr. Seabrook, secretary and Charles Whitman, treasurer.



*For detailed information, refer
to Catalog GE-A-1143*



JOIN US IN THE GENERAL
ELECTRIC HOUR, BROADCAST
EVERY SATURDAY EVENING
ON A NATION-WIDE N.B.C.
NETWORK

RIGHT to the very last detail

AS evidence that Type FA outdoor hook-operated disconnecting switches are "right to the very last detail," consider these important advantages.

A tongue-type contact effects low temperature rise by producing consistently high contact pressure.

The blade, made of two laminations of hard-drawn, channel-shaped, switch copper, is truss-constructed to provide maximum physical characteristics.

A strong, positive, blade latch counteracts any electromagnetic force tending to eject the blade.

An opening device, embodying a large-diameter offset eye, makes it easy to insert the hook and permits operation from a point directly beneath the switch.

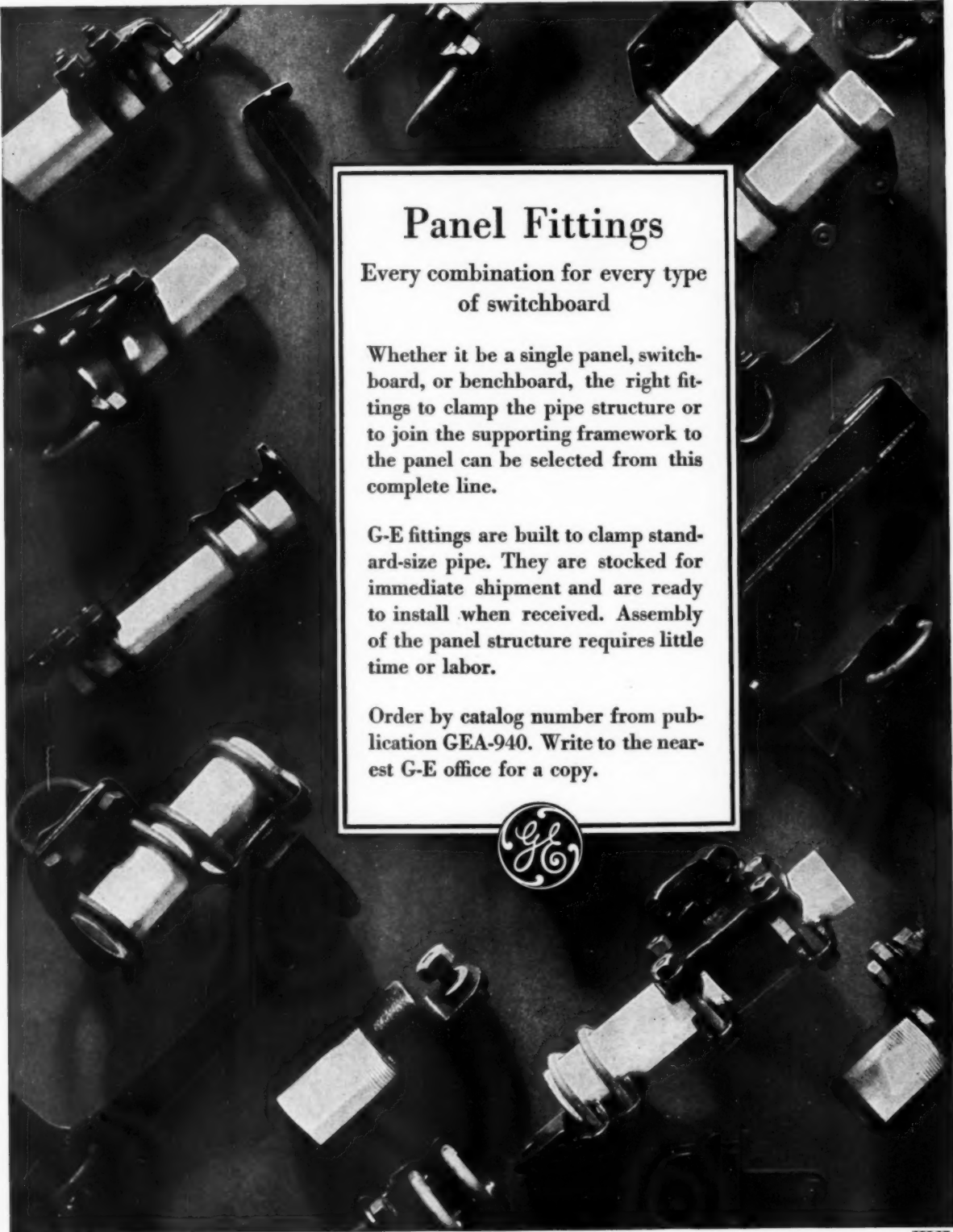
A seal-break in the opening device overcomes any sealing-in tendency of the blade.

Large break distances, absence of soldered parts, interchangeable assembled insulator units, and multi-bolt, punched-tube terminals are other features contributing to a correctness of design best described as "right to the very last detail."

500-50

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES



Panel Fittings

Every combination for every type
of switchboard

Whether it be a single panel, switchboard, or benchboard, the right fittings to clamp the pipe structure or to join the supporting framework to the panel can be selected from this complete line.

G-E fittings are built to clamp standard-size pipe. They are stocked for immediate shipment and are ready to install when received. Assembly of the panel structure requires little time or labor.

Order by catalog number from publication GEA-940. Write to the nearest G-E office for a copy.



500-39

JOIN US IN THE GENERAL ELECTRIC HOUR, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

Establishes "Wired Heat Shop"

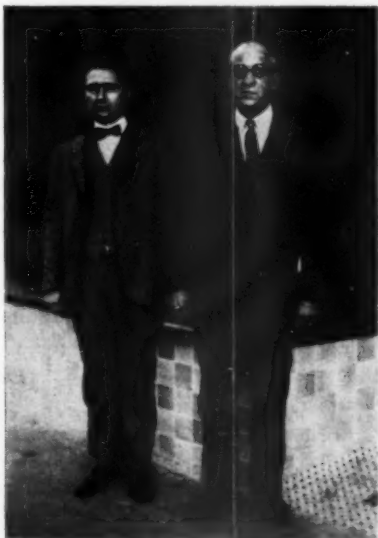
George Eldridge, formerly field secretary for the California Electricians, Northern Chapter, has established a "Wired Heat Shop" at Hayward, Calif., in conjunction with the Frank Electric Company of that city. Mr. Eldridge was formerly connected with the Frank Electric and has returned to Hayward to open business for himself selling electrical heating and cooking appliances.

* * *

Municipal Electricians to Convene

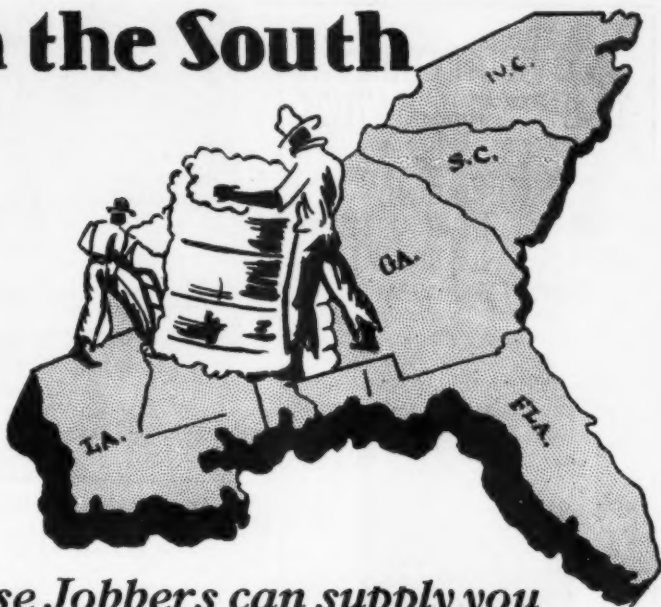
The International Association of Municipal Electricians will hold its annual convention in Denver, Colo., August 12 to 16. Plans are now under way to secure some of the most prominent electrical men to present papers on electrical problems pertaining to municipal electrical work such as police and fire alarm systems, traffic signal systems, street lighting, lighting municipal air ports, radio as applied to fire and police telegraph systems, and numerous other electrical problems.

George P. Allen, chief of the Signal Bureau of Jacksonville, Fla., is



MOVES AFTER 17 YEARS IN ONE LOCATION:—A. A. Hunt, secretary-treasurer, and George W. Blum, president of the Electric Service Co., Winston-Salem, N. C., who have just moved into new quarters after being in the one location for seventeen years. George Blum has been in the electrical business thirty-five years and is now president of the local contractors' association.

In the South



These Jobbers can supply you with STEEL CITY products

Birmingham, Ala.
Graybar Electric Co., Inc.
Moore-Handley Hdwe. Co.
Washington, D. C.
National Elec. Supply Co.
Palm Beach, Fla.
Trojan Electric Supply Co.
Tampa, Fla.
Graybar Electric Co.
Atlanta, Ga.
Gilham Electric Company
Graybar Electric Co.
The Southern Electric Supply Co.
New Orleans, La.
Electrical Supply Company
Baltimore, Md.
Baltimore Electric Co.
Graybar Electric Co.
Charlotte, N. C.
Carolina States Elec. Co.
Greensboro, N. C.
National Elec. Supply Co.
Raleigh, N. C.
North State Electric Supply Co.
Columbia, S. C.
Mann Electric Supply Co.
Richmond, Va.
Graybar Electric Co., Inc.

THE ALLEN IMPROVED CONDUIT AND PIPE BENDING TOOL is specially designed for electrical contractors . . . Bends anything tubular or solid that can be bent cold . . . It is SAFE, speeds the work and saves material.



ALLEN IMPROVED PIPE BENDER

Short bends allowed by underwriters without protecting the thread—only possible with the Allen patented beveled recess in head. Shorter bends may be made with sleeve or nipple.

**STEEL CITY
ELECTRIC ▲ COMPANY**
Pittsburgh Penna.

HOROLETRIC TIME CONTROLLED ELECTRIC SWITCH

SO WELL BUILT
WE CAN GUARANTEE
IT UNCONDITIONALLY
FOR TWO YEARS



A PRECISION INSTRUMENT

Dependability made possible by the unusual experience of the makers.

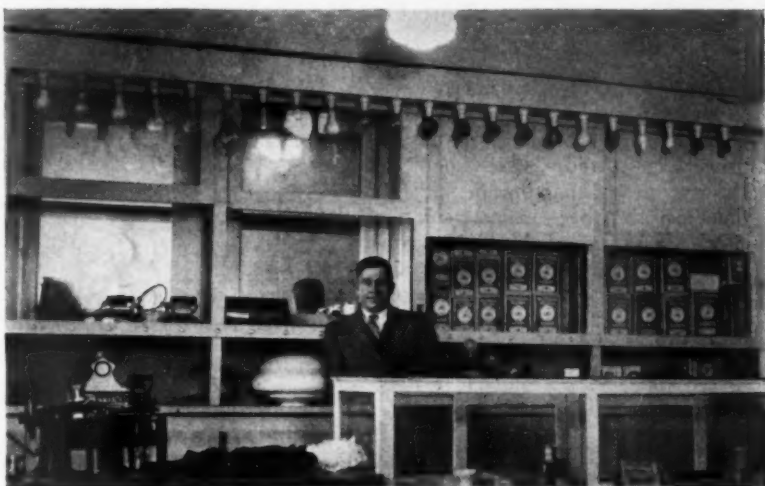
Only two types—just the eight-day hand wound and the electrically wound. They fulfill every possible need.

Big stocks . . . many types
. . . no longer necessary.

Made in U. S. A.

**HOROLETRICAL
CORPORATION**
NEW YORK CITY

HOROLETRIC TIME CONTROLLED ELECTRIC SWITCH



EXCEPTIONAL METHOD OF LAMP DISPLAY:—R. P. Gay, Gay Electric Co., Dallas, Tex., says few lamp buyers have any idea of the capacity or style they want. So he installed this lamp rack the length of his counter, showing twenty-six different sizes. Not only is the display far superior to the usual small board, but the control is unique. Along the shelf even with his shoulder can be seen the row of pushes controlling the lamps individually. They are of the 110-volt, car-push type. The contact is broken when the pressure is released. The system has increased the lamp sales materially.

president of the organization. For further information, write to Harold N. Lang, secretary of the association, Box 1864, Orlando, Fla.

the costs have been reduced each year.

It is also interesting to note how the ratio of Red Seal to total units built has been constantly growing, especially those for apartments.

The best field for Red Seal houses in Kansas City apparently is in the \$10,000 to \$20,000 group, of which 50 percent of those built have been wired to Red Seal requirements. The poorest showing was made in houses of a value under \$10,000 although this field represents 73 percent of the building units. In recognition of this situation the league reports that with the resumption of newspaper advertising, it expects to do a more effective job in the low price classification.

Red Seal Costs in Kansas City

The cost of securing Red Seal wiring has been reduced to \$9.19 per unit, according to a survey of its own operations recently released by the Electric & Radio Association, Kansas City, Mo.

The figures, which accompany this item, show that in 1926, when Red Seal operations were started in Kansas City, the cost per unit was \$4.78. Since that time, as the number of units has greatly increased,

SUMMARY OF RED SEAL OPERATIONS IN KANSAS CITY, MO.

	8 Mo. 1926	1927	1928	1929
Cost per Red Seal family unit obtained.....	\$54.78	\$35.69	\$16.22	\$9.19
Red Seal family units obtained.....	49	98	284	401
Total family units built.....	3,159	3,196	2,055	2,037
Ratio—Red Seal to total built.....	1.5%	3%	13.8%	19.7%
Red Seal houses.....	43	92	154	158
Total houses built.....	1,438	995	960	830
Ratio.....	3%	9 1/4%	16%	19%
Red Seal apartments.....	6	6	130	243
Total apartments built.....	1,721	2,201	1,095	1,207
Ratio.....	.....	.....	12%	20%

Price Classification of Houses

	New Houses Built	1928 Houses	Red Seal Obtained	1929 Houses	Red Seal Obtained
Sales Value					
Below \$10,000	73%	39	25.4%	24	15%
\$10,000 to \$20,000.....	19%	59	38.2%	79	50%
Over \$20,000	8%	56	36.4%	55	35%
	100%	154	100%	158	100%

There's a Bigger Field than You Think



And Plenty of Opportunity for You to
Cash in on Profitable Ventilation
Business

THERE is actually a very large market for ventilating equipment in numerous types of business establishments as well as in homes and apartments. We have made a careful check-up in several typical cities and found that in many cases, less than 10 per cent of the business places that should have fans actually have them. You see, the business has scarcely been touched.

These places are right in your own town, you pass them every day. Cleaning shops, laundries, battery stations, tire repair shops, garages, bakeries, restaurants, hotels and any number of other places need fans. But they are waiting for you to tell them they need them, and to sell and install them.

Are you going to cash in on this business, you that are a part of the electrical industry, or are you going to wait till the drug store puts in kitchen fans and the neighborhood goes there to buy them?

We want you to have this business, and we are only too glad to help you get it. Write for our ventilation handbook, that tells how to estimate the size needed in every type of installation.

The business is waiting for you to come and get it. Are you on?

BUFFALO FORGE COMPANY

504 Broadway, Buffalo, N. Y.
In Canada: Canadian Blower & Forge Co., Ltd.
Kitchener, Ont.

BUFFALO



BREEZO

TRULY MODERNISTIC



"AMCO" ARISTOCRAT LINE

The charm and beauty embodied in this finest modernistic line represents the first in hanger equipment. Rich and massive in appearance, these hangers harmonize perfectly with all surroundings and they're suitable for all glassware. Write us today for catalog or ask your jobber now.

"Hanger Specialists"

THE ART METAL CO.

1800 E. 38th Street

CLEVELAND . . . OHIO

Chicago Promotes Home Building with Fund

Plans have been made public for one of the most comprehensive and effective building developments in Chicago. A new organization is to offer facilities for home building which will be available to the public through the offices of every realtor in the Chicago area and up to \$60,000,000 in cash will be on hand for construction this year.

The method of financing for home construction will be first mortgage loans of 75 percent of the value of the land and building, the loans to be for fifteen year terms. A man, for instance, owning a lot valued at \$2,000 and wishing to erect a residence costing \$8,000, will be able to build with only \$500 additional cash, the financing plan permitting the negotiation of a first mortgage loan for \$7,500.

* * *

More Meetings for Northern California

Every member of the California Electragists, Northern Chapter, becomes a field representative of the organization by the action taken at the Sacramento annual convention of the Northern Chapter, March 29. Under the reorganized plan of operation, without a field force, the plan is to have the membership constitute itself a field force by holding more frequent meetings in the various localities in the Northern division.



Walter Vance, vice chairman of the state association and chairman of the northern chapter, and Ed Martin, past president of the California Electragists.

With the next meeting, at Oakland, Calif., early in May, will begin the new arrangement. To this meeting in Oakland members from all parts of the division have been asked to come for an evening session to discuss problems intimate to the contractor only. The meeting will probably be preceded by a dinner.

The Sacramento meeting proved to be decidedly an earnest one as an interlude between two very enjoyable trips, first up and then down the Sacramento River on the steamer "Pride of the River," which the association had chartered.

The meeting at Sacramento was presided over first by ex-chairman Ed Martin, Sterling Electric Company, San Francisco, and then later by Walter Vance, Pacific Electric Motor Works, Oakland, Calif., chairman of the Northern Chapter.

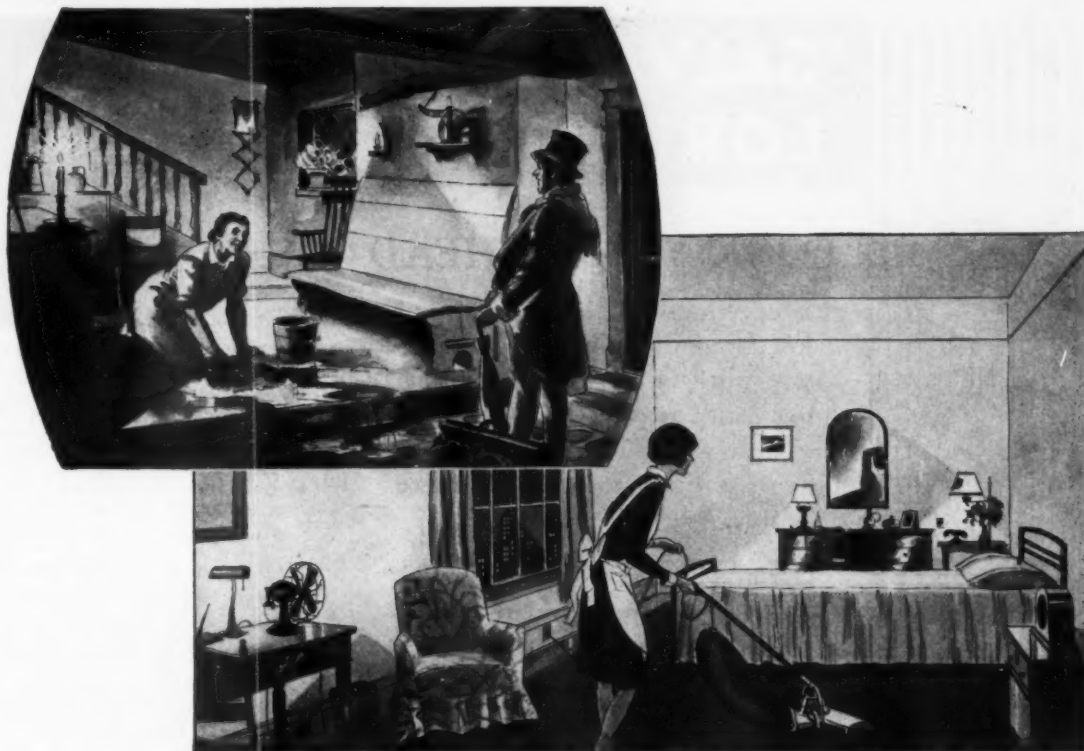
The Sacramento committee of wel-



**ON THEIR WAY
TO THE CONVEN-
TION:**—At the left,
left to right, are Jack
Daugherty, Bill Kir-
sten, Harold Gerber,
George Eldridge, H.
L. Harkness and Earl
Browne.

**MOTOR FIRMS
WELL REPRESENTED:**—Left to
right (right), are: Bill
Schultz and Charlie
Shipman of the Atlas
Electric & Engineer-
ing Co. and E. Doug-
las and C. McCabe of
Enterprise Electric
Works, all of San
Francisco.





MODERN HOTELS ARE WONDERFUL INSTITUTIONS

THE modern hotel is truly a wonderful institution—virtually a complete and self-sustained community. It may lack a bit of the individuality that characterized some of the old hostleries—a touch of the old romance with which history surrounds these places. But today, a guest enters—is registered and assigned quarters at the desk where clerks are in continuous communication with all parts of the house. He is whisked to his floor in an electric elevator and installed in his room or suite which has been made spotless with electric vacuum cleaning; where, by the snap of a switch, he may get light where he wishes it. He has at hand the means of

telephoning his next door neighbor or someone in Europe if he chooses. He can "plug in" and listen to his favorite radio program. His wife can wave her hair or do a bit of ironing. If the weather is hot, a snap of a switch and the room is cooled by an electric fan. And on the lower floors there await his pleasure tansorial parlors with myriads of electric appliances; dining rooms, ball rooms, reading rooms—all efficiently lighted and cleaned by the use of electricity.

Discriminating architects specify and progressive electrical contractors install Bryant "Superior Wiring Devices" to help make these modern Hotels the wonderful institutions they are.



No. AA15



No. 2979

THE BRYANT ELECTRIC COMPANY^{E5}
BRIDGEPORT
 NEW YORK, PHILADELPHIA
BRYANT
 SUPERIOR WIRING DEVICES
CONNECTICUT, U.S.A.
 CHICAGO SAN FRANCISCO

MANUFACTURERS OF "SUPERIOR WIRING DEVICES" SINCE 1888—MANUFACTURERS OF HEMCO PRODUCTS



"GALVADUCT" "LORICATED"

LOOK YEARS AHEAD

Every time you have a conduit job remember that the installation must be permanent. Tearing out conduit that has not withstood the tests of time is expensive. Every foot must be there to stay.

Garland Conduits have protective qualities that make them lasting. They have been withstanding the tests of time for over thirty years.

GARLAND MFG. CO.
PITTSBURGH, PA.



HAVE BUILT UP LARGE FIXTURE BUSINESS:—Frank Schroeder, head of Schroeder Electric Co., San Antonio, Tex. (left), and his associate, Matt Berry. Although conducting a general wiring business, this company has one of the largest and finest fixture displays in the Southwest, which helps them sell lighting equipment with each job.

come consisted of George Foss, Jack Kohl, Sterling Electric Company, and J. B. Hawley of Lupen and Hawley.

Earl Browne, manager, San Francisco Electrical Contractors' & Dealers' Association, was in charge of all convention arrangements.

* * *

Silver City Adopts Rigid Ordinance

An electrical ordinance has been adopted by Silver City, N. M., which includes provision for examining and licensing of electrical contractors, the appointment of an electrical inspector and the enforcing of electrical regulations based on the National Electrical Code, the Electrical Bulletins of the Mountain States Inspection Bureau and the National Electrical Safety Code.

This ordinance seems to be of the standard type with possibly two exceptions: It provides an unusual method of enforcing correction of dangerous conditions reported in re-inspection, in that if corrections are not made within fifteen days (or longer period if deemed by the inspector), after notice of conditions is received, the violating party shall forfeit and pay to the town treasury the sum of \$5.00 for each day which shall elapse after the expiration of said period. The inspector is also authorized to order the discontinuance of electric service.

The other feature is that of arbitration. When electrical work is condemned the owner may, in five days, file a petition for review of the action of the electrical inspector with



FLOODLIGHTS

GIANTS in size, but light in weight, these Kliegl reflectors are designed to illuminate large areas at a small cost. They are made of aluminum, in models for one or two 1000-watt lamps, project a very bright evenly diffused light, entirely free from blinding glare, over a large area, and for a surprisingly long distance; are particularly useful for lighting auto filling stations, swimming pools and beaches, athletic fields, etc.—also for night construction work of all kinds. Write for full particulars and trade prices.

K L I E G L B R O S

UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.
ESTABLISHED 1896

THEATRICAL • DECORATIVE • SPECTACULAR

LIGHTING

321 WEST 50th STREET
NEW YORK, N.Y.

**MOST PROFITS WHEN
CONTRACTORS
USE**

**COLLYER
ARMORED
A.B.C. CABLE**



THE ANTI-SHORT Bushing correctly installed entirely overcomes the wireman's trouble of having sharp ends of steel cut through the braid, injuring installation of the conductor COLLYER ARMORED CABLE positively insures the armored cable job and vanquishes all sales resistance "ANTI-SHORTS" placed between steel and conductor result in a foolproof job—absolutely free from grounds and shorts. The Kraft Armor unwinds below the steel, thus providing ample space for the ANTI-SHORT bushing COLLYER ABC Cable has a low first cost for the building owner and a low installation cost enabling the contractor to speed the work, save time and make money. It is flexible and bends around corners easily. Unsurpassed for rewiring jobs and providing new outlets—a big market now that means profitable installations for you. Let us give you the complete sales story that will help you sell. Write us today.



**Anti-
Short
Bushing**

**COLLYER INSULATED WIRE CO.
PAWTUCKET, RHODE ISLAND**



BUICK
Assembly Plant,
Clearing, Illinois,

Equipped with QUAD DOME REFLECTORS

Many industrial plants recently equipped with "Quad" Lighting Units have found production speeded up and cost pared down—facts amply justifying the growing popularity of this quality line.

Write for full particulars of "Quad" superiority and complete catalog describing full line.

Quadrangle Manufacturing Co.
30 S. Peoria St. Chicago, Ill.



the chairman of the board of examiners of electricians and this board shall at once proceed to determine whether the electrical construction complies with the ordinance, and within three days shall make a decision in accordance with its findings.

* * *

Providence Revises Electrical Ordinance

At the February meeting of the city council of Providence, R. I., the electrical ordinance was revised so that the wiring requirements would be based upon the 1930 National Electrical Code. This new ordinance is now in effect.

* * *

Freeport League Adopts Red Seal Plan

The Red Seal plan in house wiring and electrical installation will be used in the future according to resolutions passed at a recent meeting of the Electric League of Freeport, Ill. This plan has been adopted in order to standardize electrical installation in home construction.

Conduo-Base for Branch Circuit Wiring

Provides an ideal raceway for electric branch wiring. It enables one to have any number of telephones, desk lights, and any other outlet connections "just where wanted."

Sell the Conduo-Base Idea to your prospects and increase your electric wiring business.

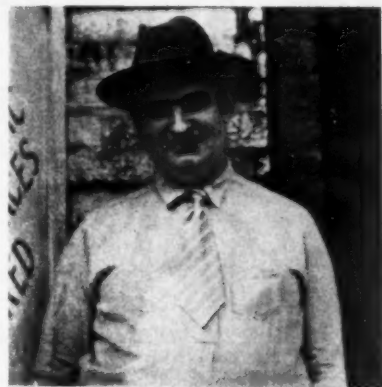
Conduo-Base is sold through electric wiring contractors.

Licensed Manufacturers

DAHLSTROM METALLIC DOOR CO.
Jamestown, N. Y.

UNITED METAL PRODUCTS CO.
Canton, Ohio

KNAPP BROS. MFG. CO.
Chicago, Ill.



A FAN SPECIALIST:—S. Dresdner, Dresdner Electric Works, New Orleans, La., started in with a general wiring business, but began to concentrate on fans and found this work to be a highly specialized branch of electrical service. Close attention to all the details developed a regular yearly volume of overhauling and sales among the same customers. In addition, new business is steadily added by word-of-mouth advertising and because he has become identified with this class of work. The first warm days of spring bring on the greatest rush and this is the time when fast service is demanded. Giving this service brings customers back again and again, not only for service on other fans, but for new purchases as well. He also does other work, especially quick repairs and commercial wiring, but the fan business is his specialty.

*In Chicago's new
Willoughby
Tower Bldg.*
**"CENTRAL"
CONDUIT**



Protecting the great electrical nervous system of this towering structure as long as time will permit it to stand—that is precisely what the owners expect of "Central" Conduit and that is exactly the kind of service built into every length.

For "Central" Conduit is made to last—made to stand the gaff of rough handling during installation—a product of the highest quality materials and skilled workmanship.

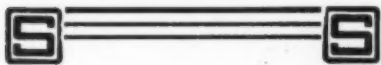
You never make a mistake when you specify "Central" Conduit,—its fine reputation of many years standing is too highly valued by this company.

CENTRAL TUBE COMPANY

General Offices: First National Bank Bldg., Pittsburgh
Plant at Ambbridge, Pa.

Architect for the
Willoughby Tower
Building
S. N. CROWEN
Associates

Electric Contractors
for the Willoughby
Tower Building
J. LIVINGSTON
COMPANY



SHERMAN Fixture Connectors Completely Practical!

**ALL
BRASS**



SHERMAN Brass
Fixture connectors
are made of high
grade, heavy material
which resists rust and assures high
conductivity. The head, non-
removable screw feature makes it
impossible for the screws to drop
out . . . You don't waste your
time looking for lost screws!

BAKELITE CONNECTORS



**Phantom
showing
construction.**



Both solderless and tapeless . . .
Sherman Bakelite Fixture Connectors
provide the ideal method of
connecting all small wires. Makes
pigtail joints safe and sure. Quick-
est to apply . . . just strip the
ends, jam them in and turn down
the screw, and a strong everlasting
joint is completed. Order through
your jobber today, or write us
direct, giving us his name.

H. B.

SHERMAN
MFG. CO.

BATTLE CREEK

MICHIGAN

Inspectors Elect Boyd President

William S. Boyd, well known in electrical circles as the organizer and for twenty-five years the secretary of the Western Association of Electrical Inspectors, now the Western Section, I. A. E. I., was elected president of the International Association of Electrical Inspectors at its annual meeting held in New York, February 17, 1930.

He began as a small contractor and later took the "expert course" at the Chicago repair shop of the Thomson-Houston Electric Company. In 1891 went west to work for the Union



W. S. Boyd

Electric Company of Seattle, Wash. Returning to Chicago in 1893 he sold electrical material and fittings for a Chicago manufacturer.

On August 1, 1894, he was employed by the late William H. Merrill, founder-president of Underwriters' Laboratories who had secured a joint appropriation from The (Western Insurance) Union, now Western Underwriters' Association, and the then Chicago Underwriters' Association for the purpose of establishing an electrical testing station in Chicago.

In 1903, Mr. Boyd again became associated with The Union, directing the work of enlarging and improving the municipal supervision of electrical wiring and apparatus in the central western district of the United States, and it was while engaged in this work that he organized the Western Association of Electrical Inspectors.

"S" Type to control
magnetic switches...
listing at only
\$40



SAUTER TIME SWITCHES are Enduringly Accurate and Dependable

"Timed" lighting or power circuits require maximum **RELIABILITY** and **ACCURACY OF TIMING**. Especially so where a heavy load is handled through a magnetic switch. Here the very best time switch is needed to do the job. And the Sauter's unrivalled *Service Record* assures dependable and accurate performance.

Spring-driven, the timing of the Sauter does not depend on continuity of voltage nor on Generator Frequency Regulation. The Sauter jewelled clock keeps perfect time irrespective of temperature or any other outside condition.

Any of the following 2 Amp. Sauter Time Switches will give perfect satisfaction in the control circuit of a magnetic switch:

- (\$40 list) 14-day, 7-jewel clock
- (\$52 list) 40-day, 13-jewel clock
- (\$75 list) self-winding, 13-jewel clock

SAUTER
Time Switches

R. W. CRAMER & CO., Inc.
136 Liberty Street, New York

The Schroeder Hotel, Milwaukee, Wis., in which Youngstown-Buckeye Conduit assures permanent protection to the electrical wiring.

Architect—
HOLABIRD & ROCHE
Chicago
General Contractor—
WALTER W. OEFLEIN,
INC., Milwaukee
Electrical Contractor—
HERMAN ANDRAE ELEC-
TRICAL CO., Milwaukee



YOUNGSTOWN-BUCKEYE CONDUIT IS EASY TO INSTALL—AND PERMANENT

YOUNGSTOWN-BUCKEYE CONDUIT has become the most widely used rigid steel conduit solely on its merits. Electrical contractors and electricians prefer it because it is easy to install—and makes a good job better. Architects and owners prefer it because it affords life-time protection to the electrical wiring.

Youngstown-Buckeye Conduit is easy to install because it is absolutely uniform and true in shape; bends

easily without breaking or opening at the welds; has deep, clean-cut threads, protected in shipment; and has durable enamel or galvanizing.

It is made of the finest grade of steel and is tough, durable and moisture-proof. These are the reasons why so many thousands of buildings have their electrical wiring protected with Youngstown-Buckeye Conduit—and why it will pay you to use it on your next wiring job.

DISTRICT SALES OFFICES

ATLANTA—Healey Bldg.
BOSTON—80 Federal St.
BUFFALO—Liberty Bank Bldg.
CHICAGO—Conway Bldg.
CINCINNATI—Union Trust Bldg.
CLEVELAND—Term'l Tower Bldg.
DALLAS—Magnolia Bldg.
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DETROIT—Fisher Bldg.
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Commerce Bldg.
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MINNEAPOLIS—Andrus Bldg.
NEW ORLEANS—Hibernia Bldg.
NEW YORK—30 Church St.
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PHILADELPHIA—
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SAN FRANCISCO—
55 New Montgomery St.
SEATTLE—Central Bldg.
ST. LOUIS—
525 Louderman Building
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LONDON REPRESENTATIVE—The Youngstown Steel Products Co.,
Dashwood House, Old Broad St., London, E. C. England

THE YOUNGSTOWN SHEET AND TUBE COMPANY

*One of the oldest manufacturers of copper steel, under
the well-known and established trade name "Copperoid"*

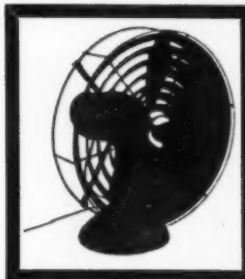
General Offices—YOUNGSTOWN, OHIO

GALVANIZED SHEETS PROTECT

SAVE WITH STEEL



TRIPLE YOUR FAN SALES



NO DRAFT

FAN FIXTURE COMPANY
Suite 1703 THE BUILDER'S BUILDING CHICAGO

"No-Draft" Fan Attachment is the first radical improvement in electric fans in twenty-five years. It makes electric fans practical for offices, hotels, stores and many other places where it used to be useless because of the direct blast. "No-Draft" Attachment made in sizes to fit any size desk fan made. It spreads the blast of the fan so that the air moves in all directions from the fan.

Above is the beautiful "No-Draft" Ceiling Lighting Fixture and Fan combined which is designed to take the place of the awkward paddle type.

See your jobber or write direct for liberal discount sheet.



CONCENTRATES ON SHIP WIRING:—These men are the heads of the Maritime Electric Co., Inc., New Orleans, La. Left to right, they are E. H. Hamann, secretary; H. L. Muller, president, and J. O. Kaelin, vice president. This company has always paid special attention to the sale, installation and service of electrical machinery, both on land and sea. Incidentally, they carry an unusually large stock of marine fittings and material.

The National Fire Protection Association has honored Mr. Boyd with appointment to its Electrical Committee since its reorganization in 1912 and to other important committees for varying periods, as well as election to its executive committee for three years in 1923.

He was for several years secretary and treasurer of the Fire Underwriters Uniformity Association, now disbanded.

Mr. Boyd has served on the Electrical Council of Underwriters' Laboratories since its organization and represents the Western Underwriters' Association on the Advisory Engineering Council of the National Board of Fire Underwriters.

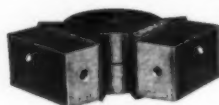
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Sub-Standard Regulation in Canada

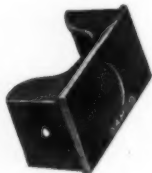
The Board of Electrical Examiners of the Province of Quebec, Canada, prohibits the sale of sub-standard equipment, according to regulations which read as follows:

"The offer for sale, the sale or the installation of such materials, accessories and apparatus in the Province of Quebec as have not been approved by one or the other of these Laboratories (Hydro-Electric Power Commission of Ontario's Laboratories or by the Underwriters' Laboratories of Chicago) is hereby forbidden."

The Electrical Licensing Act of 1929 of Saskatchewan, Canada, states that the supply houses have to put up a \$5,000 bond that they will not



No. 988
Adjustable Hinge Joint



No. 987
End Casting



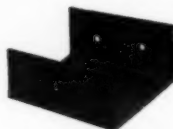
No. 990
Transom Bar Hangers

No. 991



**WIRING
CHANNEL
and
FITTINGS
for
SHOW
WINDOWS**

"OAMCO" Channel and Fittings are simple and sturdy in construction. Finished to prevent corrosion. Easy to install. Very economical and satisfactory. Order from your jobber today.



No. 993
Coupling



No. 989
Ceiling Hanger



No. 986
Wiring Channel



No. 992
Ceiling Drop Hanger

OVERBAGH & AYRES MFG. CO.

413 So. Clinton Street

Chicago, Ill.



Stanley Safety Saw.
Approved for Safety
by industrial commis-
sions, Underwriters
Laboratories and In-
surance Companies.

STANLEY



WHEREVER lumber is cut on the job, a Stanley Safety Saw will do the work in one-tenth the time of hand sawing.

The outstanding feature of Stanley Safety Saws is the positive guarding of the saw blade to prevent any possibility of injury. When the saw is placed in position a trip lever releases the guard and the blade is ready to cut. When the cut is finished and the saw removed, the guard automatically covers the blade and locks. Depth gauge permits cutting to any depth.

The Saws are light in weight and easy to handle. They are built to "stand the

gaff" of continuous operation and are equipped throughout with ball bearings.

Made in four sizes: No. CC7 cuts 2" deep, No. CC9 cuts 3" deep, No. CC12 cuts 4" deep and No. CC16 cuts 6" deep. Blades can be furnished of crosscut, rip or combination type. Special blades can be furnished for cutting soapstone, bakelite, copper, cable or wall board.

Send for full information on this labor saver which gives absolute protection to the operator.

THE STANLEY ELECTRIC TOOL COMPANY

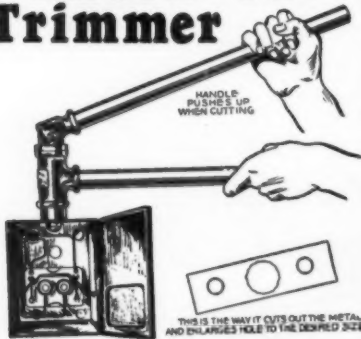
New Britain, Conn.

Sales Offices and Service Stations: New York Chicago Cincinnati Philadelphia Detroit

STANLEY ELECTRIC TOOLS



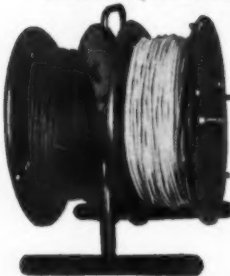
New! Hykon Knock-Out Trimmer



CLEAN, BURLLESS HOLES

The new HYKON Knock-Out Trimmer will cut from the lightest to the heaviest metal. . . . Unexcelled for enlarging the knockout openings in boxes and cabinets. . . . Convenient size. . . . Sturdy and durable. . . . No parts to break, or get out of order. Should be in every wireman's kit.

HYKON (PORTABLE) DOUBLE UNIT REELS



Made in three sizes. . . . Unusually strong and compact, with discs made of 18 gauge stamped steel black enamel weatherproof finish. Light in weight and

may easily be carried from one job to another. Saves time and enables you to handle large coils of wire easily and quickly.

THE FASTEST HAND POWER BORING MACHINE MADE

Saves its cost on the first job. . . .

The HYKON Boring Machine has a new and exclusive patented "one-piece self-centering Bit Chuck."

Telescopic standard adjustable from 4 1/2 to 13 1/2 feet. Anyone can operate it. Saves time on every job and will last indefinitely.



Mail This Coupon Today

The Hykon Mfg. Co.

Alliance Please send literature and special introductory discounts on HYKON Ohio

- ☐ KNOCK-OUT TRIMMER
☐ BORING MACHINE
☐ WIRE REELS

Firm
Name
Address
City..... State.....

sell material which is not approved under the act and there is a prohibition and penalty on outside salesmen coming into the province without a license.

* * *

Seeks Sentiment on State Wide Licensing

The legislative committee of the Minnesota State Electrical Contractors' Association, Minneapolis, has sent a questionnaire to 300 contractors in the state seeking their suggestions and comments on a state wide licensing law. The information received will be used in the preparation of a proposed amendment to the present law.

The present state law covering the licensing of electricians applies only to cities of the first class. It is enforced very effectively in Minneapolis and St. Paul by the local inspectors.

At the state convention of electrical contractors held in Minneapolis last November, the question of licensing all electrical contractors was the leading topic of discussion. It



IN CHARGE OF MOTOR SALES:—Eugene I. Rosenfeld & Company, Baltimore, Md., specialists in electric signs and display lighting, also do a large electrical construction and power business. This is Henry M. Kluge in charge of the motor sales and repairs and the trouble department.



Your Fellow Merchants are your Customers with OHIO BRUSH KIT No. 35

The butcher, with his meat chopper, the grocer, with his coffee grinder, every single phase motor user can be quickly and profitably serviced with Ohio Brush Kit No. 35. This kit contains 132 brushes that can service over 300 types of single phase motors.

Every brush is numbered. Simply locate the motor on the chart and the brush is at your fingertips. This code system makes your brush replacement jobs economical in time and money and gives you a reputation for service that means increased profits.

Ohio Kit No. 35

Price \$25

The Ohio Carbon Co.

12508 Berea Road

Cleveland, Ohio

U. S. A.

West of Rockies
1066 Howard St. San Francisco, Calif.





RECEPTACLES OF TEXTOLITE *are modern . . . !*

Textolite provides a hard, durable finish that will not tarnish . . . can be readily finished to suit any decorative scheme. Here are qualities that win customers for you:

Textolite is unharmed by time, climate or rough service. It neither corrodes nor stains. Washes like glass . . . but it's not easily broken.

General Electric offers you a complete line of Textolite Moulded Wiring Devices . . . tumbler switches, convenience outlets, wall plates and lamp holders. They're business builders. For descriptive matter write Section D295, Merchandise Department, General Electric Company, Bridgeport, Connecticut.



Threaded-Catch Lamp-holder and Cap of Textolite



Standard Attachment Plug of Textolite



Through-Cord Switch of Textolite



NEW!
All-Textolite Cap Plug
Makes disconnecting
safer and easier. Relieves
cord strain.

GENERAL ELECTRIC

TEXTOLITE WIRING DEVICES

Elements of the G-E Wiring System

MERCHANDISE DEPARTMENT • GENERAL ELECTRIC COMPANY • BRIDGEPORT, CONN.



Hanger with Porcelain Bushing



CABLE HANGERS

BEST FOR CABLE OR CONDUIT



Hanger without Porcelain Bushing

Made of high grade spring steel they are quickly and easily put in place. And they make more compact and neater installations. They are fitted with porcelain bushings wherever necessary. You will save time, labor and money on every Minerallac job.

Write today for Bulletins and Catalogs on the Minerallac Line of Cable Hangers, High Voltage Insulating Compounds, Jiffy Clips and the Altman Desk and Table Pushes.

MINERALLAC

ELECTRIC COMPANY

25 N. PEORIA ST. CHICAGO, ILL.

BEL-CROME, the Exclusive



Feature

Is a Tremendous Sales-Advantage

Atlanta, Ga.
Buffalo, N. Y.
Detroit, Mich.
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Omaha, Neb.
Philadelphia, Pa.
Pittsburgh, Pa.
Richmond, Va.
Rochester, N. Y.
St. Louis, Mo.
San Antonio, Tex.
San Francisco, Cal.
Seattle, Wash.
Tampa, Fla.
Tulsa, Okla.

CANADA
Montreal, Que.
Toronto, Ont.
Winnipeg, Man.

WE couldn't improve the design, so we improved the material. Bel-Crome brings Bel-Sun-Lites so near perfection that it leaves your customers with nothing more to ask and your competitor with a lot less to offer.

Bel-Crome is an alloy of chromium used exclusively in Bel-Sun-Lites. It is a better reflector than chromium plate. It is strong as steel, light as aluminum, tarnish-proof, almost impossible to scratch, and the reflecting surface cannot peel or be polished off because it goes clear through.

Bel-Sun-Lites are made for theatre, show-window, factory, floodlight and school use. Ask our representative about them. His name is in the classified 'phone book of the nearest listed city.

Belson Manufacturing Co.
804 Sibley St., Chicago, Ill.

**Lights for: Theatres, Schools,
Show Windows, Signs, Buildings**



SPECIALIZES IN MARINE WIRING:—Rudolph Viener, Jr., is head of the Marine Electrical Works, New Orleans, La. His company does some commercial and industrial work but most of the time he and his men can be found on the job among the many ships in the New Orleans harbor, this having been a specialty of the company since it started.

was agreed by all those present that some method of licensing that would be state-wide in effect should be worked out and presented for action at the next session of our state legislature.

The Central Minnesota Contractors' Association and the Southern Minnesota Contractors' Association at conventions held since the first of the year have both gone on record as favoring a licensing law.

* * *

To Control Maintenance Electricians

An amendment to the city electrical ordinance to control maintenance electricians in public buildings has recently been passed by the city of San Antonio, Tex. This amendment reads, in part, as follows:

"A maintenance electrician shall not install new material as applied to extensions, or in any way increase the size of the installation; but the owner, operator, agent, manager or lessee of any office building, hotel, theatre, department store, industrial plant, or any other enterprise, may have electrical installation made, and maintenance work done by their own electricians, or skilled maintenance employees, when no charge is made therefor, and only when such work pertains to the maintenance of the electrical installation of the institution in which such employee is regularly employed, after obtaining the

50% EASIER PULLING

CIRCUIT TESTING IN ONE THIRD THE TIME



OMEARA & HILLS
Architect

ECLIPSE ELECTRICAL CO.
Electrical Contractors

DePaul Hospital

We'll gladly serve you
through your jobber



United States Rubber Company

1790 BROADWAY NEW YORK
BRANCHES IN EVERY INDUSTRIAL CENTER

ECLIPSE ELECTRICAL CO.
Electrical Construction and Supplies
In All Its Branches
1224 Pine Street

St. Louis, Mo., February 24, 1930.

United States Rubber Co.,
Wire Division,
1790 Broadway, New York, N. Y.

Gentlemen:—We have just completed the electrical wiring contract on the new DePaul Hospital in this city, on which the United States Rainbow Line was used exclusively.

Considerable time was saved on this installation by the use of the Rainbow Line, due to the fact that it does everything you claim for it,—that is fifty per cent easier pulling and circuit testing in one-third the time.

We also wish to take this opportunity of expressing our appreciation for the excellent service you rendered on this job and the way our order was handled by your St. Louis Branch. Very truly yours,

ECLIPSE ELECTRICAL CO.
JOHN J. DILLON, President.

"U. S." RAINBOW WIRES

ALL-METAL FLOODLIGHTS & REFLECTORS

Made of Rayalium, a special prescription metal of our own. Especially noted for its lasting brilliancy and durability.



No. 2150 & 2200
Show window reflectors. On all metal, non-breakable reflector for all general show window lighting.



No. 750
A guaranteed weather-proof light. Castings & body are made of aluminum and coated with genuine Duco.



No. 624
Flood and Spot Light for window illumination. Requires no cord or plug.

*Send us your
Lighting Problems!*

Regardless of the nature of your lighting problems, send them to us! Our engineers will make a special study of them and recommend to you in the form of blueprints, etc., the most effective, practical and economical way to handle such an installation. This service is absolutely FREE to you!

THE MARBELITE ART PRODUCTS COMPANY
2652 W. LAKE ST. CHICAGO, ILL.

WRITE NOW

For your sample of our new show window reflector and for your copy of our new catalog and discount sheet.

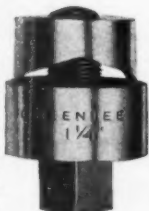
MARVEL-LITE

THE WONDER-LITE OF
TODAY

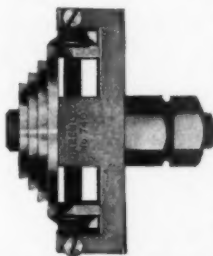


The Greatest Time Savers yet developed!

Electricians all over the country are claiming that the new Greenlee Knockout Tools are the greatest time savers for enlarging holes in switch and circuit cabinets, panel-boards, etc. yet developed. The job which formerly took anywhere from ten minutes to an hour can now be finished in a minute and a half or less with these tools. The hole is left clean and round and requires no filing of rough edges afterwards.



The Knockout Punch, shown above, is one punch of two sets for enlarging holes from $\frac{7}{8}$ " to $2\frac{3}{4}$ ". Sets are conveniently packed in leather cases which are easy to carry.



Greenlee's new miniature catalog, "Tools for Carpenter, Electrician and Plumber."

The Knockout Cutter, shown to the left, operates just as easily and enlarges holes just as quickly as the Knockout Punch. It will enlarge holes to fit $1\frac{1}{2}$ ", $2\frac{1}{2}$ ", and 3-inch conduit. Fill out the coupon below for detailed information on these Knockout Tools. Every one sending in a coupon will also get a copy of

GREENLEE TOOL CO.
Rockford, Ill.

5-30

Please send complete information on:

- ☐ Knockout Tools
☐ Bit Extensions

Name

Address

City

Jobber or Dealer

permit therefor; and such work shall be subject to examination by the city electrician under the stipulations of the ordinances governing electrical installations in the city of San Antonio."

Also the ordinance provides that all buildings larger than two family houses must have the wiring installed in rigid or flexible steel conduit. In all buildings used for school purposes, switches controlling each circuit must be placed in the hall on each floor and must contain the requisite number of switches to control the lights in each room on said floor.

* * *

New License Ordinance for Marysville

The city council of Marysville, Cal., has appointed Al Lassiter, journeyman electrician, A. A. Syvertsen, contractor, and Mayor Smith to act as an examining board under a new ordinance. The ordinance provides for licensing electricians after they have passed the examining board's tests.



FIELD SECRETARY FOR CALIFORNIA ELECTRAGISTS, SOUTHERN CHAPTER:—Fred White, secretary of the Long Beach electragsists, who is also field secretary for the California Electragsists, Southern Chapter. The Long Beach electragsists, for the past several months, has been active in sponsoring a new ordinance which changes the mechanical requirements and requires the examination of master and journeyman electricians. The association is also devoting a considerable amount of time to the study of cost accounting and an analysis of the overhead expenses of the individual members. Fred White also serves the San Diego electragsists.

A New Bit Extension That Positively STAYS LOCKED

Here is the bit extension that every electrician who has lost his bit in the work has been looking for. It is one that always has a positive grip on the bit shank while boring or withdrawing. This positive locking mechanism on the Greenlee No. 900 is an entirely new idea in tools of this type, since it absolutely prevents the holding sleeve from becoming loose while in use.

Will Follow a $\frac{5}{8}$ -Inch Bit

This new No. 900 Greenlee Bit Extension has a wider range than other tools of this type due to its design. Not only has it strength enough to drive a bit up to 1-inch in diameter, but it also is small enough to follow a $\frac{5}{8}$ -inch bit. This is due to the thin outer shell, which does not drive the bit, the drive coming from the chuck within.

The Greenlee No. 925 Bit Extension is similar in design except that it is made extra heavy to follow a $\frac{1}{2}$ -inch auger bit and to drive tools up to 2 inches in diameter.

Mail the coupon below for further details. Every one sending in a coupon will receive Greenlee's new miniature catalog, "Tools for Carpenter, Electrician and Plumber."

GREENLEE TOOL CO.
Rockford, Ill.

5-30

Please send complete information on:

- ☐ Bit Extensions
☐ Knockout Tools

Name

Address

City

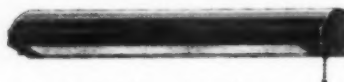
Jobber or Dealer

Cashier Cage Reflectors

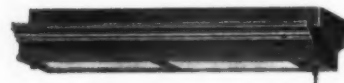
These reflectors are available in standard 18" units or in continuous sections of any desired length. See catalog No. 8.



No. 1012 units—standard 18" section available in 4 sizes—made of steel, statutory bronze spray finish. A practical and economical unit of many uses. See catalog No. 8, page 24.



No. 1010C—Continuous bank cage light. Made of steel, finished any standard spray color, also furnished in 4 sizes. See catalog No. 8, pages 30 and 31.



No. 1250 Combination Bank Cage and indirect lighting. Made of steel or bronze, furnished in any size, style and length. See catalog No. 8, page 28.



For Catalog of Day-Brite Showcase reflectors, etc., write for the above booklet catalog No. 8-A, or ask your regular jobber for one.

REFLECTOR **DAY-BRITE** COMPANY
3825 Laclede Ave., St. Louis



A ROLL O' TAPE

Electrical flashes gathered among the Big Wire-and-Pipe Men by

Coit A. (Duke) Smith
Field Editor, ELECTRICAL CONTRACTING

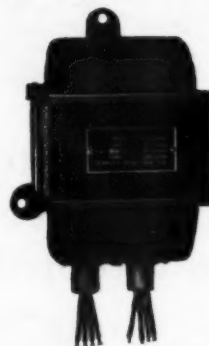
THERE are many little ways in which a contractor can advertise his wiring business without expense. The Althoff-Howard Electric Co., Evansville, Ind., had a service to install at the Evansville Enameling Co. It happened that the panels, switches, etc., were ready before they could be hooked up. Mr. Althoff therefore placed them in his store window, and the display proved different enough to attract constant attention from people of all classes who passed by the store.

THE Electrical Contractors' Association of Memphis, Tenn., has secured 95 percent attendance at its weekly meetings by reversing the usual order of things and paying a bonus to each member who is on hand for the ten A. M. session held every Monday. Being positive instead of negative, this works out better than the system of fining men when they are absent. In case of sickness, absence from the city or jury service, members are excused and receive the bonus just the same. The collective benefits derived from full attendance have proved that this fee system is really profitable.

JAMES NIVEN, city electrician of Saginaw, Mich., protests that the term "defective wiring" as the cause of fires is improperly used, and offers "misused wiring" as a substitute. Mr. Niven claims there is no such thing as defective wiring in the sense that it is used, because all electrical installations, when occupancy starts, are safe. He further claims that the public will load up with additional wiring and electrical appliances on the limited circuits, creating overloads in violation of the Code rules, creating fire hazards, and therefore, the term "misused wiring" is more proper than "defective wiring."

ARCHITECTS and builders are always asking for approximate figures on proposed wiring jobs. At a recent meeting of the Bakersfield Electragists one member submitted the following definition

A Tip to Contractors



You can increase your business while saving money for your industrial and commercial customers, by transforming A. C. power circuits to better fit portable equipment and lighting, with

SORGEL
AIR-COOLED
TRANSFORMERS

WITH CONDUIT CONNECTIONS

Made in $\frac{1}{4}$ to 50 KVA.

Single-phase, 2-phase and 3-phase

110, 220, 440, 550 Volt

Approved by Underwriters

Installations can be made easily and economically most any convenient place inside of buildings; on a wall or post; in a space not used for other purposes; or right where the change in voltage is wanted. The current can then be transmitted to distribution center at the higher voltage, requiring smaller feed wires and resulted in more efficient distribution.

Also Complete Line of Air-Cooled
Booster Auto Transformers

for A. C. Network Systems

Sizes 1 to 500 KVA.

Transformers Designed for Special Applications

Sorgel Electric Co.
Clybourn & W. Water Sts.
Milwaukee, Wis.



THIS CONVINCING GUARANTEE

on EVERY FAN

Regardless of Size or Price

EMERSON
guaranteed for 5 years

Applying to Emerson Fan

Purchased by _____ (Name of User)

No. and Street _____

City and State _____

Date of Purchase _____ (Write plainly, give month, day and year)

From _____ (DEALER)

No. and Street _____

City and State _____

This fan is hereby guaranteed by The Emerson Electric Mfg. Co. for five years from date of sale to the original purchaser (the user) covered on this tag. If defective this fan will be repaired free, or any defective part thereof will be repaired or replaced without charge, if required or replaced within the guarantee period, purchaser within the guarantee period, as directed on the reverse side of this tag.

This guarantee does not cover cost of repairs made or attempted outside the factory. This guarantee covers any possible defect of motor or parts, but is not intended to cover repairs to motor or replacement of a part damaged by accident.

The guarantee becomes effective only when this tag is properly filled in by the Dealer at time sale is made.

Keep This GUARANTEE TAG

The Emerson Electric Mfg. Co., 2018 Washington Ave., Saint Louis
806 W. Washington Blvd., Chicago 155 Sixth Ave., New York City

EMERSON FANS

with the 5 Year Guarantee

CARRY A

Test-O-Lite

In Your Pocket — ALWAYS

NEW! — and the **FIRST** practical tester covering from
100 to 550 Volts A. C. or D. C.

It's a Trouble Finder!

TEST-O-LITE, with its tiny Neon lamp, instantly detects trouble in electrical circuits, locates burnt-out fuses, light and motor troubles, faults in electrical appliances, auto spark plugs and radio sets.

Small and Convenient As a Fountain Pen
Lasts A Lifetime

Indispensable To
Electricians, Engineers, Building Superintendents, Home Owners

TEST-O-LITE is the product of the makers of STORM KING LIGHTNING ARRESTERS and SOLDERALL.

LIST PRICE \$1.50

L. S. BRACH MFG. CORP.
Specialists In Electrical Protective Devices for 24 Years
Newark, N. J., U. S. A. • • Toronto, Canada




of an approximate method of approximately figuring approximate wiring jobs, which ought to be approximately as good as any.

"To arrive at an approximate cost of a wiring job take the area in square feet of the entire floor plan multiply by the height of the ceiling, divide by the number of doors and windows, subtract the number of rooms, then add profit, if any.

This will give you a dependable approximate figure."

THE Swanson-Nunn Electric Co., Evansville, Ind., has a fine system of servicing and handling tools, equipment, etc. Not only is every article kept in tip-top condition, but every piece, including ladders, tool-chests, material boxes, etc., is painted for identification. The color scheme is red and yellow, and any article can be quickly sighted by the workman, even from a distance. The company trucks are all yellow, the red being left off to avoid any suggestion of gaudiness.

THE city commission of St. Petersburg, Fla., each year asks for bids for the lamp contract. Each year the bids are all alike and each year a young lady draws the lucky name out of a hat. Thus do the St. Petersburg contractors secure the city's lamp order. This year the \$5,000 contract was "won" by the Keesler Electric Co.

It's "Service Entrance Fitting" Time!

WITH good outdoor working conditions here again, industrial plant superintendents, power-plant engineers, and contractors are all planning those outside jobs which winter storms have held up.



Service Entrance Cap Fitting cuts wire-threading and "pull-through" costs. Just loosen two screws, and the entire top is removable. Overhanging cover flange assures weather-proofness.

**FOR DETAILS & PRICES
FILL IN COUPON BELOW**

↓

Name of Firm

Address.....City and State.....

That means plenty of service entrance fittings and — since it costs you no more to have the best and easiest to install —

**Specify ADAPTi
Entrance Fittings**

It is weatherproof without gasket. Holds conduit close to building. Overlapping cover locked by screw. Condensation hole if required.

The ADAPTi Co.

2996 East 72nd St., Cleveland, Ohio

NEW YORK CITY
A. Stone, 112 East 23rd St.

CHICAGO
The United Electric Sales Co.
300 W. Adams St.

BOSTON, MASS.
E. R. Bryant, 241 "A" St.

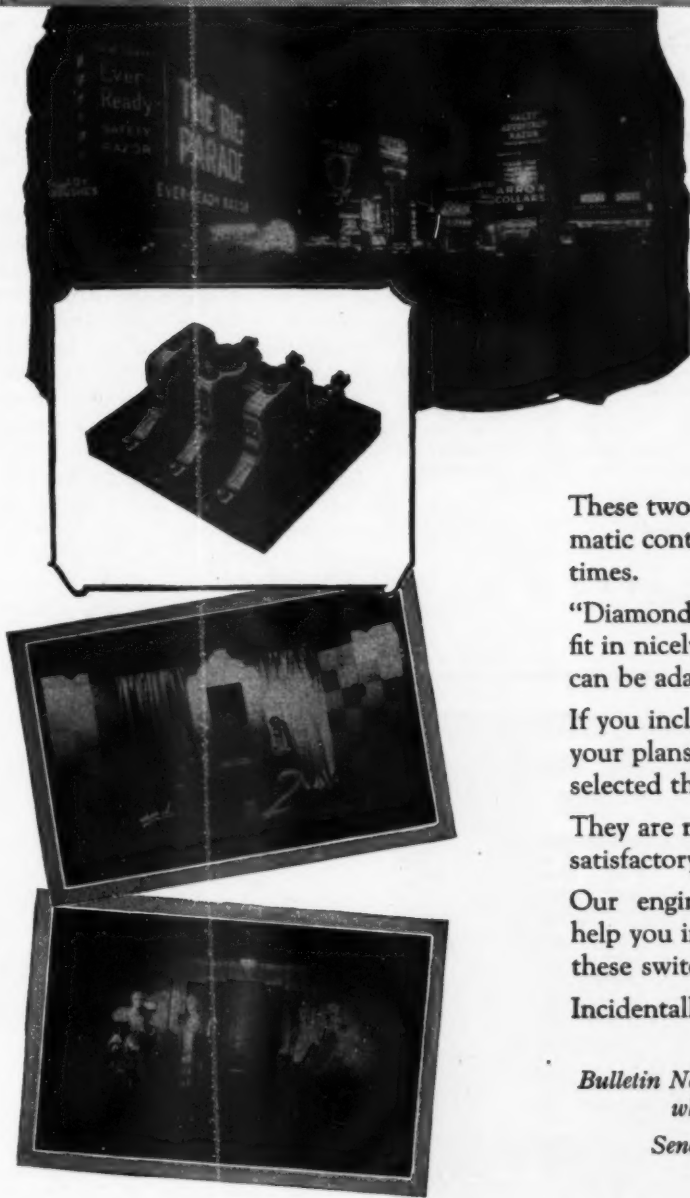
PHILADELPHIA
The Craven Electric
Sales Co., 30 Bank St.

I USE the classified section of the telephone book in each city to check up on electrical contractors. The Fagan Electric Co., Little Rock, Ark., is the first I have noticed that uses a real business-getting photograph to illustrate its advertisement in this section. It shows a mechanic testing out a big stator preparatory to making repairs. This advertisement has been unusually productive.

THE Toronto contractors have done a lot to maintain goodwill with inspectors, jobbers and manufacturers' salesmen through an annual bowling match, the losers paying for the banquet. The contractors had two free feeds this year, once when they beat the inspectors by a score of 5819 as against 5656, and the other when they were beaten by the jobbers by 1100 pins. When asked to explain, George Patterson, who started these matches when he was chairman of the contractors' association four years ago, said that of course the jobbers paid for the banquet anyway; but this year there were forty-one jobbers with an aggregate score of 18,588 against thirty-four contractors with a score of 17,027. On the basis of average scores, the contractors claimed victory. Why not? A golf tournament is also held every summer between manufacturers' and jobbers' salesmen and contractors.

What do you specialize in?

—for instance
*Electric Signs and
Show Windows*



These two kinds of lighting call for automatic control to turn on and off at given times.

"Diamond H" Remote Control Switches fit in nicely, because they are reliable and can be adapted for any purpose.

If you include "Diamond H" Switches in your plans, you can be sure that you have selected the very best.

They are ruggedly built to give long and satisfactory service.

Our engineering department is glad to help you in laying out circuits to include these switches.

Incidentally, they are economical to use.

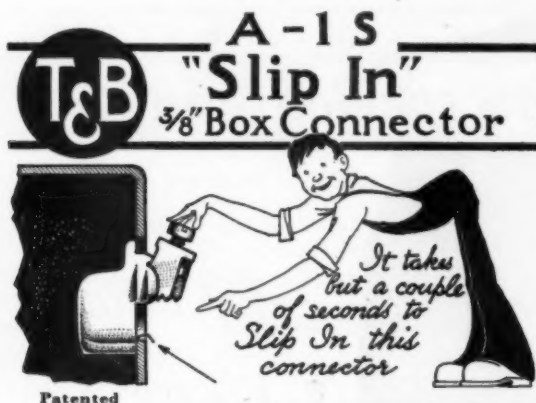
Bulletin No. 10 C shows several wiring plans in which these switches are used.

Send for a copy, it may help you.

THE HART MANUFACTURING CO.
HARTFORD, CONN.

BOSTON NEW YORK DETROIT CHICAGO SAN FRANCISCO PHILADELPHIA
DALLAS NEW ORLEANS TORONTO, CAN. MINNEAPOLIS CLEVELAND

DIAMOND H SWITCHES



See that little Spring? Just catch it on edge of knockout and press connector down until it Slips-In. Once in, it cannot fall out.

Made in one piece—No locknut to fuss with.

The teeth on the Tite-Bite grip hold the cable securely in place and cannot enter or spread the convolutions of the cable sheath.

The screw does not touch the cable.

The A-1S Slip-In Tite-Bite Connector forms a double ground. It is protected against corrosion with TaBolite and is designed to hold No. 14-W2, No. 14-W3, No. 12-W2, No. 14C and No. 14P Cord.

Have you had your free samples?

The Thomas & Betts Co.

MANUFACTURERS

MAIN OFFICE
15 PARK PLACE, NEW YORK CITY

FACTORY
ELIZABETH, N.J.

SURGES AIR-COOLED TRANSFORMERS



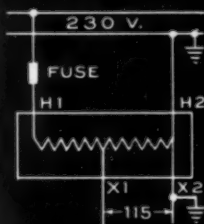
1/2
to
50
K.V.A.

Single,
Two,
or
Three
Phase

CONSULT US ON YOUR
SPECIAL AND STANDARD
TRANSFORMER NEEDS.

Write for Bulletin 112.

SURGES ELECTRIC CO., Milwaukee, Wis.



New Code Transformer
for Polarity Wiring
(Type SA, single phase)

SURGES transformers are specially designed for factory installations—for the economical operation of low voltage incandescent lamps, portable tools, fans, welders, etc., from power mains. They are easy to install and meet the requirements of the National Board of Fire Underwriters.

In the Editor's Mail

(Continued from page 30)

installed than was actually necessary but we were allowing for the future. In all cases a new entrance was installed and grounded in accordance with the code. We always set the meter and tapped our entrance wire.

Prices charged were practically the same as listed in your resale sheet.

We were very much pleased with the article in the November issue by Charles L. Edgar and if the power companies in this part of the country would take the same attitude believe that it would be much better for companies and contractors. The power company in our territory does some interior wiring, that is, they install some of their ranges, wire for refrigerators, heaters, etc., and we know from experience that they cannot do the work as good or as cheap as the contractor, but in charging material and time, they have several accounts that the contractor does not.

We recently wired a new store at contract price and tried to sell fixtures, but the power company sold them at cost. Is that good business? The small contractor and possibly the large, has today a mighty hard row to hoe.

With power companies calling him a robber and with supply companies giving no protection, selling to anyone, it looks like getting a job driving a coal cart.

Logan Electric Co.

Millinocket, Me.

* * *

Direct Selling Evil

Editor,

ELECTRICAL CONTRACTING:

It does not appear to me that the manufacturer and jobber fully recognize the possibility of the electrical contractor as a salesman. They, unfortunately, think of the contractor in terms of the ten thousand who are doing \$50,000,000 business, rather than the fifteen thousand who are doing the \$500,000,000 business. Can they be re-educated not to sell direct? The contractor can do just as big a job with their assistance at a much smaller cost.

If they would analyze their selling

THIS IS BALANCED LIGHTING THIS ISN'T



. . . which lighting would you pick for *his* work?

FOR BALANCED
LIGHTING, WEIGH:

Horizontal Light	vs.	Reflected Glare
Vertical Light	vs.	Direct Glare
Shadow Depth	vs.	Flat Shadows
Maintenance & Design	vs.	First Cost

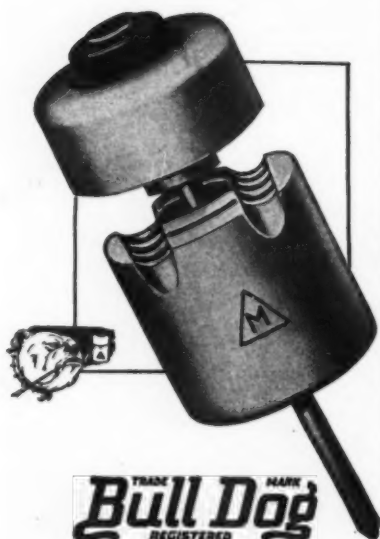
Showing how various factors
balance, for best results

Look at the "picture" of the light falling on these two workmen...Light can play strange pranks as contractors know. Glare...shadow...costly eyestrain may be caused by otherwise excellent lighting fixtures, if improperly placed...Engineers have found the most efficient lighting to be a balance of many variable factors, such as intensity of illumination...type of fixture...location...first cost...maintenance...Hence *Balanced Lighting*, the scientific "yardstick" of the Graybar lighting line. Let Graybar's specialists show you how to apply this "yardstick" to *your* lighting problems.

GraybaR

OFFICES IN 76 PRINCIPAL CITIES. EXECUTIVE OFFICES: GRAYBAR BUILDING, NEW YORK, N. Y.

"It has a grip like its namesake"



Split Knobs

THESE are the safe, approved knobs for all types of residence wiring. They mean better jobs at no added cost. Bull Dog Split Knobs, together with Illinois Porcelain Tubes, Cleats and Solid Knobs form a complete line of standard porcelain.



Sold Through Wholesalers

Illinois Electric Porcelain Co.
Macomb, Illinois

cost, we know that they would discontinue much of their direct selling to the industrial plants and consumers. If direct selling was abolished the contractor would undoubtedly have a better opportunity of doing a real job and give a real service, which every customer is entitled to.

A certain editor of an electrical journal recently said in Toronto that last year there was \$50,000,000 electrical business done in North America by the small contractor. Is a portion of this business not worth getting? Why not make a salesman out of these small contractors? If successful they cost nothing as a sales getter.

I believe there is a great opportunity for some reliable manufacturer or jobber to step out and make a change in their methods of merchandising. It is worth a trial.

Toronto Electrical Contractor.

* * *

Locating Lost Outlets

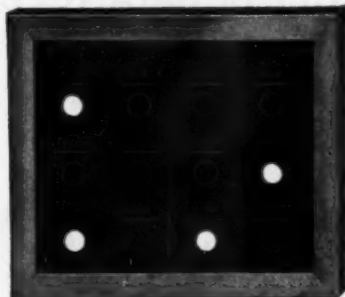
Editor,

ELECTRICAL CONTRACTING:—

I read with interest the discussion in the recent issue of ELECTRICAL CONTRACTING on lost outlets. We have had considerable trouble in this respect in many cases, especially the lower priced houses where the switches and convenience outlets, especially the latter, are not exactly located on the plans, or if so, may have to be moved a little. Many times the plans are little more than sketches with no definite markings. Sometimes the outlets are not placed to the best advantage.

On one project of twelve houses ranging in price from \$9,000 to \$15,000, the plasterers were especially careless in this respect and quite a few outlets in each house were covered up. The electrical layout was made by a young lady graduate in domestic economics of one of our leading universities nearby, and in some cases switches and outlets were unusually placed. The walls of these houses were of a special sand finish which could not be patched without showing, so it was not permissible to dig at random. Some of these hidden outlets were used to feed through, and simply had to be located to complete the circuit.

One evening about this time several boy scouts from the local troop were in the shop looking for infor-



Annunciators

The Holtzer-Cabot Annunciators are manufactured to a standard of quality unsurpassed. Thousands of installations are giving long years of satisfactory, trouble-free operation. It will prove of advantage to compare quality and prices of Holtzer-Cabot equipment.

The Holtzer-Cabot Electric Co.
Executive Office and Factory
Boston, Mass.

Chicago	New York	Baltimore
Philadelphia	Pittsburgh	Cleveland
Syracuse	Detroit	Minneapolis
San Francisco	Los Angeles	

PIONEER MANUFACTURER OF
COMPLETE SIGNALING SYSTEMS



WHAT EVERY
STOREKEEPER
SHOULD BE
TOLD ABOUT
STORE LIGHT-
ING — And
Why It Will Pay
You to Do the
Telling.

MODERN STORE LIGHTING PLANS

Every alert electrical contractor should have a copy of the current issue of the "WIREMOLD BUSINESS BUILDER." There is good business — and GOOD PROFITS — in selling merchants THE IDEA of keeping store-lighting up to date. Send for your copy — IT'S FREE — and get the details.

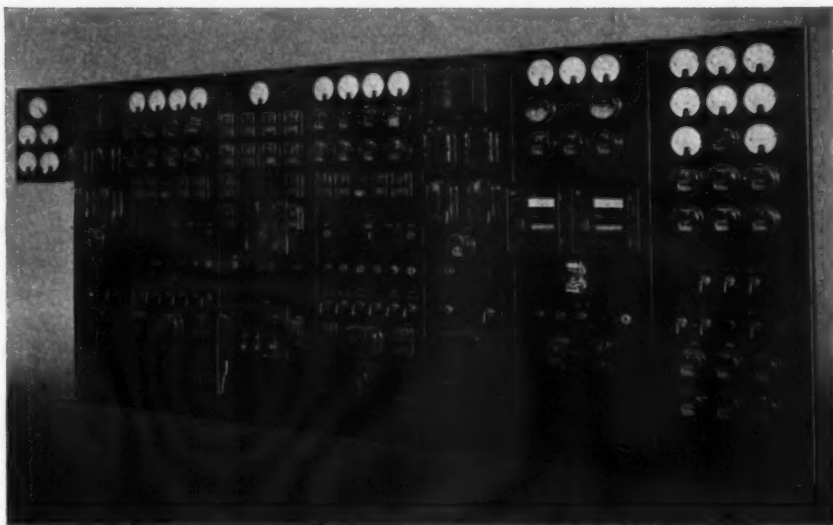
WIREMOLD

Hartford, Connecticut

STEEL Switchboards

assure...

LOW INSTALLED COST



STEEL switchboards, introduced by Westinghouse in 1905, have been improved so much that steel is now the most popular panel material. Westinghouse steel switchboards have many distinct advantages.

The panels arrive ready for immediate installation completely assembled and wired with panel mounted devices in place.

Correctness of connections has been established at the factory.

Light in weight and non-fragile, they are easily and rapidly handled.

The standard one-piece construction simplifies erection and alignment problems.

Terminal blocks, conveniently located, enable easy connection to outgoing circuits.

Installation costs can be further reduced by shipping the switchboard entirely assembled with all panels bolted together up to sizes limited only by transportation facilities.

And in addition to these features, you have a switchboard of unusually attractive appearance.

There is a switchboard specialist in our nearest district office prepared to supply full information.

Write for a copy of *Quality Switchboards*, D.M.F. 5181.

Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse

T 31082





A BIG MONEY SAVER

Eliminates triple handling—unwinding—measuring and rewinding wire, thus saving time and money. Manually operated—reels wire into neat coil, automatically counting and registering number of feet. Strongly built of heavy selected materials so as to last a lifetime.

It Pays for Itself



Send for bulletin.
Write us or your jobber.

**Minneapolis Electric
and Construction Co.**

80 S. 12th St.
Minneapolis Minn.

OUT-DOOR LIGHTING FIXTURES



Apartment Buildings
Public Buildings
Bungalows
Churches
Schools
Garages
Country Clubs
Warehouses
Residences

**A FIXTURE FOR EVERY
OUTDOOR PURPOSE**

Cast Iron or Bronze

Send for our

New Catalogue No. 30
300 Illustrations

For particulars consult your
ELECTRICAL JOBBER
(He knows the HERWIG Line)
or write us direct.

**The
Herwig Company**

MANUFACTURERS
Established 1908

1753-59 Sedgwick Street
Chicago, Illinois, U. S. A.

mation in reference to taking their electrical tests, and as usual they had a compass. One boy in particular was testing everything which took his fancy for magnetism and then by interposing paper, books, glass, etc., between the compass and steel box or whatever else struck his fancy. These experiments set me to thinking about my covered up outlets, and with this idea in mind I tried the compass on the house walls and found that the boxes in the walls running north and south could be easily located, by the deflection of the compass needle but not so easily on the east and west walls. If, however, the compass was moved very slowly from east to west or the reverse, there would be a slight vibration of the needle in passing the box, pipe or whatever else metallic there was in the walls. As our outlets are always placed a standard height, and knowing the approximate location of all pipes, boxes, etc., we had trouble in locating only one or two of the concealed outlets. This method would not be dependable if metal lath were used.

J. C. HAWKINS.

Hyattsville, Md.

* * *

**Authority for Approval in
Canada**

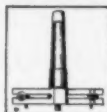
Editor,
ELECTRICAL CONTRACTING:

In the April issue of ELECTRICAL CONTRACTING I note an article headed "Alberta Gets Results from Sub-standard Law," in which you indicate that you have recently been in communication with R. D. Wagner, chief electrical inspector. I might explain that an arrangement was made whereby the Code was adopted under the Electrical Protection Act and administered by the Workmen's Compensation Board, for which Mr. Wagner is the inspector. My impression is that the act does not distinctly specify that electrical materials have to be approved by the Canadian Engineering Standards Association, but does recognize the Canadian Electrical Code. I wish to correct the impression that our association has the power to approve electrical material. We have no such power and, as a matter of fact, do not desire any such power. We publish the Code and also specifications for different

The Jiffy Line **SPEEDS !** **YOUR WORK !**



Box Cutter



Drill Press
Cutter



Pipe Bender

Saves you time, labor and money on every job. You can do the job faster with a jiffy tool. Write today for bulletins.

ESTABLISHED 1915

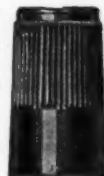
**PAUL W.
KOCH
& COMPANY**
20 N. Wacker Drive CHICAGO

5-30

FAST!!



A-1 Wire Connectors



Jiffy Connectors make a stronger, safer connection. There are millions in use. Contractors are familiar with the simplicity and dependability of Jiffy Wire Connectors. Approved by the Underwriters Laboratories and Factory Mutual Laboratories.

Patent Nos. 1635299—1736379
Others pending.



One size for combinations of No. 14, No. 16 and No. 18, solid or stranded, up to No. 14 and 2 No. 18, or equivalent.

Samples upon Request

**JIFFY
WIRE CONNECTOR
COMPANY**
HACKENSACK N. J.

General Sales Offices:
G. Denn Montgomery, Jr.
522 Broadway, New York City
Phone Canal 7533

The only library of its kind in print for the Practical Electrician



An Opportunity

for every man in the electrical business to examine for 10 days the greatest electrical library published. There is no obligation—no salesmen. These books have an immediate dollars-and-cents value to you, no matter what your work is at present.

REWINDING
SMALL MOTORS
BRAYMER AND ROE

FREE

—if you act now
Braymer and Roe's—RE-
WINDING SMALL
MOTORS—comes to you
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act now in getting your
AMERICAN ELECTRI-
CIANS' LIBRARY.
REWINDING SMALL
MOTORS gives you practical
information about re-
winding all types and
designs of fractional horse-
power motors.

Terrell Croft's American Electricians' Library

Six volumes—over 2,000 pages—fully illustrated. Special durable library binding

TERRELL CROFT prepared this new subscription library for practical electricians. The six volumes bring to you exact step-by-step directions for the installation of every type of conduit wiring job—they tell you how to handle every kind of lighting circuit and switch problem—they give you short cuts to saving time on maintenance routine—they give you useful tips on electrical machinery erection—they offer you practical, clear explanations of all kinds of A.C. armature winding jobs—they bring you a thousand armature winding, electrical machinery, and con-

trol diagrams—they show you the surest, quickest methods of locating and remedying circuit troubles. They cover the countless problems you face daily.

The American Electricians' Library gives you the kind of practical information that has made all of the Croft books invaluable to their owners. This Library contains all the useful hows and whys and wherefores for wiremen, trouble shooters, armature winders, electrical maintenance men, and electrical contractors. You must examine this Library for yourself.

Send no money—see the books first
[\$1.50 in ten days and \$2.00 monthly for eight months]

More than 1,000 wiring diagrams—

The thousand wiring diagrams in these six books are alone worth the price of the entire library to any practical electrician. Many of these diagrams are unobtainable elsewhere; many more are very hard to get from any other source; all of them are much clearer and more helpful than most wiring plans available. They include:

- 300 single-phase armature windings.
- 9 single-phase armature windings.
- 52 two-phase armature windings.
- 100 three-phase armature windings.
- 570 electrical machinery and control wiring diagrams.
- 300 lighting circuit diagrams, and a number of other practical working drawings.

**Send for this set of practical electrical books
CLIP AND MAIL THIS COUPON TODAY**

McGraw-Hill FREE EXAMINATION COUPON

McGraw-Hill Book Company, Inc., 370 Seventh Avenue, New York.
Please send me the Croft American Electricians' Library for 10 days' free examination. If satisfactory, I will send \$1.50 in ten days and \$2.00 a month until \$17.50 has been paid. If not wanted I will write to you for return shipping instructions. Upon receipt of my first payment you are to send me, without extra cost, a copy of Braymer and Roe's Rewinding Small Motors.

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(Books sent on approval to retail purchasers in the U. S. and Canada only.)

EC-5-30

◀CURRENT▶ AND POTENTIAL TRANSFORMERS



Current Transformer



Potential Transformer

The current transformers are made for accurate metering and also tripping service for all service voltages up to and including 15,000 volts.

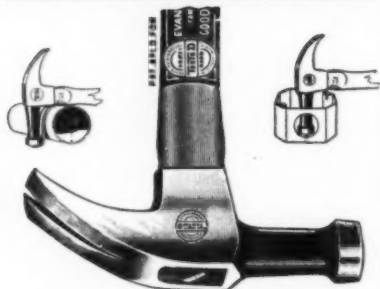
The potential transformers are made for all operating voltages up to and including 13,800 volts in standard 50 and 200 VA capacities.

They are built in conformance with the standards of the A.I.E.E. and N.E.M.A.

They are made for switchboard and bus chamber service and may be mounted on pipe supports, slotted base or steel plate.

Bulletin describing in detail the various types may be had on application.

The
**STANDARD
TRANSFORMER CO.**
WARREN OHIO



Electrician's Hammer \$2

An electrical mechanic designed this hammer. The long poll (2 inches) makes it easy to reach into outlet boxes, over pipes and into corners. The claw is built for prying; the handle is seasoned hickory.

4,787 Electricians Use It!

MAIL COUPON TODAY

Evansville Tool Works, Inc.
Evansville, Indiana.

Gentlemen:

I am enclosing my P. O. Money Order for \$2.00. Please send me the No. 77 Electrician's Hammer at once.

Hdwe. Dealer.....

My name.....

Address

electrical apparatus, but none of these documents are mandatory until they are officially adopted by the particular provincial government or municipality. The question of approval of apparatus rests entirely with the provincial inspection departments who accept the verdict given by the Hydro-Electric Power Commission of Ontario or the Underwriters' Laboratories at Chicago.

B. Stuart McKenzie, Secretary,
Canadian Engineering
Standards Association.
Ottawa, Canada.

* * *

Michigan Inspectors Meet in Flint

The annual state meeting of the Michigan Association of Electrical Inspectors was held at Flint, Mich., April 26. The subjects under discussion or presented in addresses included "Advantages of Code Uniformity"; "Special Rules for Code Modification" and "Recognizing Results of Preventive Engineering". Among the speakers on the program were A. R. Small, vice president, Underwriters' Laboratories, New York; Robert Loughhead, chief engineer, Michigan Inspection Bureau, and Ben W. Clark, chief electrical inspector, Detroit, Mich.

* * *

W. A. ReQua

William A. ReQua, founder of the ReQua Electrical Supply Company, Inc., Rochester, N. Y., died on March 20, after an illness of several months. He had retired from active participation in the business of the company about two years ago due to his health. Since that time, he has made his home in Florida.

Mr. ReQua will be remembered by the contractors of Rochester for his interest in contractor organization work and particularly the national association.

* * *

Two New Electrical Leagues for Illinois

A new electrical league has been organized at Freeport, Ill., with George B. Fluehr of the Illinois Northern Utilities as secretary and will be known as the Electrical League of Freeport.

Quincy, Ill., has also formed an electrical league and H. E. Ury will serve as secretary.



DROP-FORGED HOOKS give ARMSTRONG BROS. Vises Strength.

Drop-Forged Steel Hooks, Frame and Base of Certified Malleable Iron, Jaws of Tool Steel

Drop-Forged Steel hooks, frames and bases of Certified Malleable Iron, jaws of Tool Steel, carefully milled, hardened, tempered and tested; these are features of ARMSTRONG BROS. Better Pipe Vises.

Improved designs, convenient weight, strength, and quick action. Fineness in details—for example, the oval ends on handle that will not pinch the hand.

Write today for catalog P-10 which shows and describes the most complete line of pipe tools made—each an improved tool.

ARMSTRONG BROS.
TOOL CO.
"The Tool Holder People"
341 N. Francisco Ave.
Chicago, U.S.A.

ARMSTRONG BROS.

Beating Competition with Brains

Competition is tough in the electrical contracting business these days; and every day it gets worse. Successful contractors have found they can beat fly-by-night competition best by using their brains, and by educating their responsible employees. You can help your head men to keep abreast of the times and save you money by sending each his own copy of ELECTRICAL CONTRACTING.



EXPENSE? NO!

*An Investment Earning
Profits for You
Every Day in the Year*

PAYS PROFITS!

"It might interest you to know, as a result of using your Service last year, we made \$3000.00 more Net Profit over the previous year." That's one successful Contractor's comment on our Service.

INVESTIGATE-IT WILL PAY YOU!

A Service that prompts Contractors to write us as this one has done—must have merit, don't you think?

FREE TO CONTRACTORS!

"Your Silent Partner" is the title of a little booklet just off the press. It's a straight-from-the-shoulder answer to why some Contractors are successful. It's yours for the asking. Simply attach the coupon to your letter-head.

Henderson-Hazel Corporation,
5005 Euclid Avenue,
Cleveland, Ohio

Please send us without obligation your booklet, "Your Silent Partner."

Name

Address

City or Town

State

EC 5-30

Manufacturers News

A department for the announcement of activities of manufacturers that are of interest to contractors, such as changes in executive personnel, branch offices, new products, etc.

Hunter to Direct Kondu Sales

E. J. Hunter, formerly assistant district manager of the Kondu division of the Erie Malleable Iron Co., Erie, Pa., with headquarters in New York City, has been appointed director of sales of the Kondu division and will be located at Erie. Mr. Hunter replaces Clinton Stark who resigned.

* * *

All-Steel-Equip Company Makes Changes

F. R. McQuown, formerly sales manager of the electrical division of All-Steel-Equip Co., Aurora, Ill., is now general sales manager, having supervision of both the electrical equipment divisions. Mr. McQuown's former position is now being filled by H. L. Breitenstein.

B. G. Wiley, sales manager of the equipment division, has been appointed advertising manager, succeeding Karl D. Franke.

The Chicago offices and warehouse are now located at 326 South Jefferson St. The new quarters of the company are much larger and were necessitated by the growth of sales in the company's complete line of steel office and shop equipment and electric wiring materials.

* * *

Square D Makes Changes in Personnel

C. E. Cook, formerly Square D branch sales manager at Detroit, has been appointed assistant sales manager in charge of sales of all meter and entrance switches and voltage testers, with headquarters in Detroit. Mr. Cook's former position will be taken over by R. M. Heasley, who was sales representative at Grand

Rapids, Mich., and George H. Schubert will replace Mr. Heasley.

E. L. Pittenger is now assistant sales manager in charge of Squareduct and industrial safety switch sales. Mr. Pittenger's former position of branch sales manager at Pittsburgh has been taken over by R. R. Eckenrode, who was formerly located at Philadelphia.

The Detroit sales office has added Henry M. Foley to its staff.

* * *

Wagner Changes Branch Managers

Wagner Electric Corporation, St. Louis, Mo., announces the appointment of Major E. R. Elam as branch manager of the Minneapolis territory, succeeding L. J. Dicianne, who will be branch manager of the Kansas City office.

Major Elam has been with the company since 1927 as salesman in the St. Louis territory. For the past four years Mr. Dicianne has had charge of the Minneapolis territory, prior to which time he was a salesman in the Iowa territory and also office manager in the Chicago office.



MOVES INTO NEW FACTORY: L. S. Brach Manufacturing Corp., located for 24 years at 127-129 Sussex Ave., Newark, N. J., has moved to its new factory at 55-63 Dickerson St. and 84-92 Duryea St., Newark. In addition to manufacturing radio protective devices and lightning protective apparatus, the company is now making a testing instrument known as "Test-O-Lite". One of the new specialties of this company is electrically operated clocks.

G. E. Buys Resilient Terminals

The Resilient Terminals Co., Oakland, Calif., has been purchased by the General Electric Company and N. H. Watts, formerly chief engineer of Resilient, has joined the engineering staff of General Electric Co. at Bridgeport, Conn., to carry on and further the development of soft rubber plug and connector idea.

* * *

General Cable Reorganizes District Sales Offices

The General Cable Corporation, New York City, has established eighteen district and territorial sales offices and assigned the entire district sales personnel of Dudlo, Rome, Safety and Standard underground divisions to these new territories.

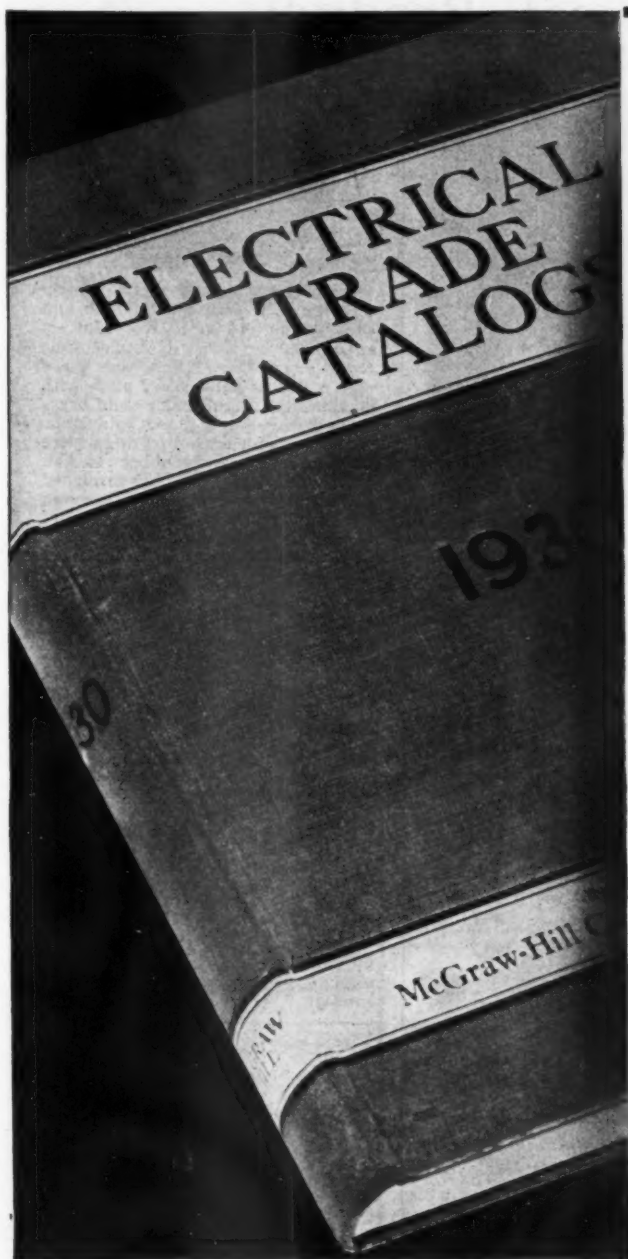
This new field sales policy further consolidates the manufacturing and engineering facilities of the corporation, making them more readily available. The identities of the thirteen companies comprising the four operating divisions will be continued as manufacturing and shipping units. All present trademarks will also be continued.

The newly appointed district and territorial managers are as follows: A. D. Stein, manager New England district, Boston; O. G. Miller, Northern New York, Rome, N. Y.; M. E. Damon, Rome territory, Rome, N. Y.; N. C. Osthoff, Buffalo territory, Buffalo; F. O. Hoyt, Philadelphia; H. G. Richardson, Washington territory, Washington; R. A. Gray, Pittsburgh; K. D. Clothier, Cincinnati territory, Cincinnati; C. R. Evans, Northern Ohio, Cleveland; E. W. Kearns, Central, Chicago; F. B. Nimmo, Minneapolis territory, Minneapolis; H. C. Wilder, Southern, Birmingham; M. L. Tico, Birmingham.

1930 Edition

—now being distributed

Here are the Manufacturers of Electrical Supplies, Equipment, Appliances and Raw Materials who have filed their catalogs in the 1930 Edition of Electrical Trade Catalogs.



To Help You
Design—Estimate—
Get Orders—
Place Orders

Ackerman-Johnson Co.
Frank Adam Electric Co.
Ambler Asbestos Shingle & Sheathing Co.
American Blower Corp.
American Lava Corp.
American Steel & Wire Co.
Anaconda Wire & Cable Co.
Ansonia Electrical Co.
Autovent Fan & Blower Co.
Baldor Electric Co.
Wallace Barnes Co.
Bead Chain Mfg. Co.
Benjamin Electric Mfg. Co.
Black & Decker Mfg. Co.
Boston Woven Hose & Rubber Co.
Bryant Electric Co.
Buffalo Forge Co.
Central Tube Co.
Circle F Mfg. Co.
Continental-Diamond Fibre Co.
R. W. Cramer & Co.
Detroit Insulated Wire Co.
Diehl Mfg. Co.
Doehler Die Casting Co.
Domestic Electric Co.
Driver-Harris Co.
Dumore Co.
Struthers Dunn, Inc.
Empire Steel Corp.
Engineering Products Corp.
Follansbee Bros. Co.
Formica Insulation Co.
Frets-Moon Tube Co.
Fullman Mfg. Co.
General Electric Co.
General Plastics, Inc.
Wm. D. Gibson Co.
Gilby Wire Co.
Graybar Electric Co.
Handy & Harman
H. M. Harper Co.
Herwig Co.
Harvey Hubbell, Inc.
Hunter Pressed Steel Co.
Ideal Commutator Dresser Co.
I-T-E Circuit Breaker Co.
Indiana Rubber & Insulated Wire Co.
Janette Mfg. Co.
Johnson Fan & Blower Co.
Kent Co.
Klemm Reflector Co.
Kliegl Bros.
Leland Electric Co.
Macallen Co.
Massachusetts Machine Shop
Master Electric Co.
Mica Insulator Co.
Miesner Mfg. Co.
Monowatt Electric Corp.
National Carbon Co.
National Slate Association
National Vulcanized Fibre Co.
Newcomb Spring Co.
Newton Die Casting Corp.
New York Insulated Wire Co.
Peck Spring Co.
Pittsburgh Reflector Co.
Precision Castings Co.
Progressive Mfg. Co.
Reflector & Illuminating Co.
Reliance Automatic Lighting Co.
Republic Steel Corp.
Reynolds Electric Co.
John A. Roebeling's Sons Co.
Rome Wire Co.
Scovill Mfg. Co.
Shakeproof Lock Washer Co.
Standard Electric Time Co.
B. P. Sturtevant Co.
Taplet Mfg. Co.
Transformer Corp. of America
United States Rubber Co.
Viking Tool & Machine Co.
Wadsworth Electric Mfg. Co.
P. Wall Mfg. Supply Co.
Walser Automatic Timer Co.
Warren Telechron Co.
Waterbury Button & Molding Co.
Westinghouse Electric & Mfg. Co.

Whenever you need catalog information on the products of any of these companies—turn to their catalog in Electrical Trade Catalogs!

New Electrical Products



A floodlight lantern is being marketed by Marbelite Art Products Co., Chicago, Ill., for floodlighting banks, public buildings, gas stations, etc. The base of this lantern will fit an 8 1/4 in. capital which must be used at top of standard for mounting. Capital can be furnished to fit any make of standard or for mounting on wood or pipe standards. The features of this lantern are Rayalium polished reflector; cyanide glass panels held in position by spring clips; cast aluminum body and hinged top door; porcelain mogul socket mounted to cast aluminum rocker permitting accurate focus; cast aluminum yoke and carriage with trunnions permitting both horizontal and vertical adjustment and aluminum casting finish. The lamp used with this lantern is 500 watt, PS-40 bulb or 300 watt, PS-35 bulb and sockets are provided for two 100 watt lamps to light up glass panels in back of reflector.



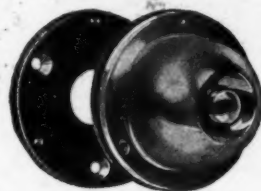
Type "GMP Form 1" switch, illustrated, is one of a line of medium duty gang operated disconnecting switches announced by Delta-Star Electric Co., Chicago. This particular switch is rated 7500 volts, 1200 amp., designed for vertical mounting and provided with 45 deg. insulators. Contacts are of double self-aligning full floating type. Flexible leads connect a hinged terminal with blade of switch with hinged terminal located with respect to rotating bearing on switch base so that conductor remains in fixed position regardless of swing of lower insulator. This type switch is also adaptable for use as oil switch disconnects.



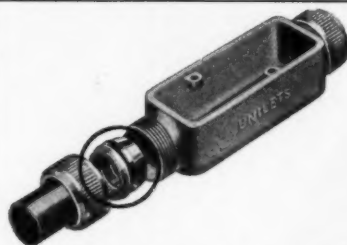
An automatic electric hammer, operating on universal current with snap switch in handle, is being manufactured by the Ohio Electric Hammer Co., Cincinnati, Ohio. The hammer, besides driving the drill, rotates it with an intermittent motion, between strokes and a single adjustment regulates the force of the hammer blow as desired. "Back-kick" is practically eliminated so that holes may be correctly centered and driven accurately at any angle through masonry, tile, brick, concrete or marble. The same chuck takes drill points from 1/8 in. to 1 1/4 in.



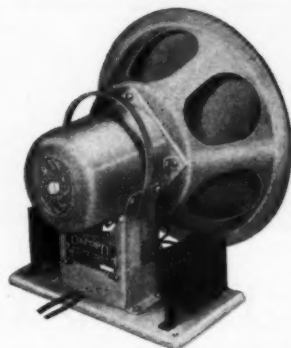
General Electric Company, Schenectady, N. Y., announces a new flood-light projector for salt water submersion. The interior is similar to type L-23 projector, but the exterior is made entirely of brass and bronze eliminating corrosion and electrototype action that results when both bronze and aluminum are used. It also differs from the standard type by having the trunnion mounted directly on the base.



An improved, all metal water-tight push, known as No. 1786 and superseding old style No. 1786, is announced by Edwards & Co., Inc., New York City. This one piece unit is a neat solid brass push with pigskin diaphragm under solid brass shell, with binding posts, phosphor bronze contact tension springs, pure Bakelite base and rubber gasket. This push can also be furnished with brass conduit plate, threaded for 1/2 in. pipe and machine screws furnished to attach push to plate.



A contracting sleeve is now available for no-thread malleable unilets permitting their use for steel tubing. This sleeve, which is being manufactured by Appleton Electric Co., Chicago, Ill., grips the steel tubing firmly and can be substituted for the type of contracting sleeve regularly furnished for standard conduit.



Oxford Radio Corporation, Chicago, Ill., has added to its regular Oxford line the auditorium d.c. speaker for use in the home, theater or auditorium. This speaker has a permanentized controlled diaphragm; inertia counteracted construction; three-point suspension, balanced spring and moisture-proof coil mountings.



"Handy-Andy" Vise Stand

Designed to save contractors time and labor in bending, cutting, threading and other pipe work on the job. Is portable, can be instantly set up or folded. No loose parts. Will accommodate without drilling all standard hinged or chain vices. Made throughout of malleable iron and steel tubing. Fully guaranteed. Order yours today from your jobber.

Western Wire Products Co.
3rd and Spruce Streets
St. Louis, Mo. U. S. A.

"Your 27-Inch

Meier Nu-air

TRADE MARK REGISTERED

Replaced a 45-Inch of Another Make

and it is doing the same work at much less cost!—Suburban Electric Development Co., Pittsburgh, Pa.



Write today for Distributor Literature

MEIER ELECTRIC & MACHINE CO.
136 South Meridian St.,
Inc. 1904 INDIANAPOLIS, IND.

ham territory, Birmingham; J. A. Peacock, Atlanta territory, Atlanta; W. D. Hampton, Charlotte territory, Charlotte, N. C.; A. Z. Barnos, Dallas territory, Dallas; E. H. Shutt, South Central, St. Louis; B. E. Dolch, Kansas City territory, Kansas City; W. A. Craveson, Lake, Detroit; R. G. Harris, Mountain, Denver; C. G. Gauntlott, Pacific Coast, San Francisco; W. G. Stearns, San Francisco territory, San Francisco; and C. A. Brown, Seattle territory, Seattle.

The divisional district managers function as heretofore in the Metropolitan district with headquarters in New York City. They are Dudlo Manufacturing Co., F. H. Phillips; Rome Wire Co., H. A. Hammond; Safety Cable Co., H. F. Hagerty and Standard Underground Cable Co., R. S. Hopkins.

Resident engineers will also be located in the district and territorial sales offices.

* * *

The Appleton Electric Company, 1701 Wellington Ave., Chicago, has appointed Albert W. Rockwell district manager of their San Francisco office located at 655 Minna Street. Mr. Rockwell has been representing the Appleton line on the Pacific Coast for the past two years.

* * *

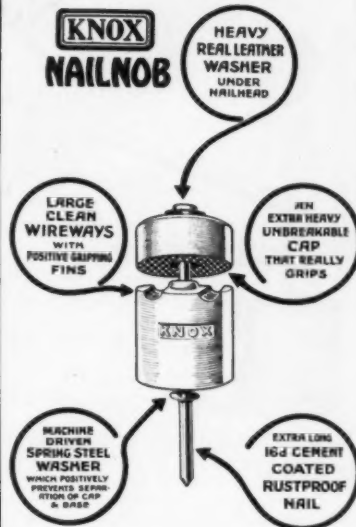
General Electric Sales Show Increase in 1929

According to the annual report released by Gerard Swope, president of the General Electric Company, Schenectady, N. Y., 1929 was the best year in the history of the company in volume of orders received, shipments billed and sales. Orders received during 1929 amounted to \$445,802,519 as compared with \$348,848,512 in 1928, an increase of 28 per cent, with unfilled orders totaling \$94,623,000 compared with \$72,953,000 at the close of 1928, an increase of 30 per cent. Sales billed for 1929 were \$415,338,094, compared with \$337,189,422 for 1928, an increase of 23 per cent.

* * *

A bulletin descriptive of McGill rubber handle portable guards is being issued to the trade by McGill Manufacturing Co., Valparaiso, Ind.

**KNOX
NAILNOB**



SOLD THROUGH WHOLESALERS

MANUFACTURED BY - -

KNOX PORCELAIN CORPORATION
KNOXVILLE - - - TENNESSEE

"DETROIT" RUBBER COVERED WIRES

(Reg. U. S. Pat. Office.)

RUBBER INSULATED
WIRES AND CABLES

LAMP CORDS

PARKWAY CABLES

LEAD ENCASED
RUBBER INSULATED
WIRES AND CABLES

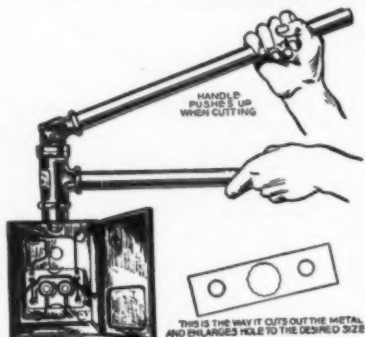
"OK" A.B.C. ARMORED
WIRES

FLEXIBLE METALLIC
CONDUIT

Detroit Insulated Wire Company
Detroit, Mich.

Division of General Cable Corporation

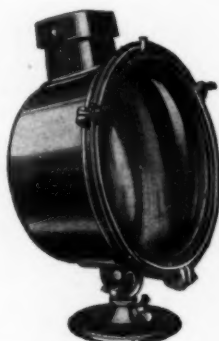
New Electrical Products



The HyKon Mfg. Co., Alliance, Ohio, announces a knockout trimmer for enlarging knockout openings in outlet, junction and ceiling boxes and operates on the inside or outside of the box as required. It has been designed to cut metal as heavy as No. 10 gauge steel. The openings are enlarged by a simple movement of the handles, thereby making a hole without burrs, allowing a bushing and locknut to be drawn tight against the metal.



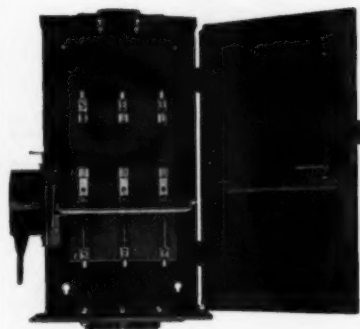
A free tripping thermal overload switch for small fractional horsepower motors, known as bulletin 9101, 2 3/4 in. wide, 4 1/4 in. high and 2 1/4 in. deep, has just been announced by Cutler-Hammer, Inc., Milwaukee, Wis. The switch has a time limit type of thermal overload furnished in numerous ratings up to and including 3/4 h.p., 110 and 220 volts, a.c. and 1/4 h.p. 115 volts d.c. All current carrying parts are well insulated, mica discs shielding contact mechanism which is of the quick-make and break type. One of its features is free tripping, safeguarding motor and preventing damage to switching mechanism while an overload condition exists. It has a substantial base, cold-moulded from C-H thermoplastic.



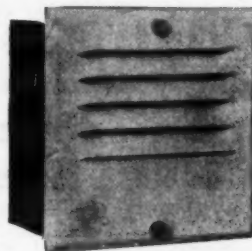
Wheeler Reflector Co., Boston, Mass., is manufacturing a general short range floodlight which can be mounted at any angle and adjusted to the desired focus. All parts of this light are made of aluminum with the outside of the aluminum casing finished in high heat-resisting aluminum bronze. It has a chromium plated parabolic reflector with hinged door fitted with diffusing glass lens and asbestos gaskets on each side of the lens making the unit weatherproof. Eye bolts and wing nuts securely clamp the door closed. Socket is mounted in a ventilated housing at top of unit and a swivel base and quadrant mounting permit body to be adjusted through an angle of 120 deg. vertically and 360 deg. horizontally.



Westinghouse Electric & Mfg. Co., Pittsburgh, Pa., has added to its line of Sollar luminaires a cast bronze hanger, antique gold finish with burnished highlights, in ceiling type only, for use with plain or decorated globe. This hanger uses the keeper ring method for supporting globe with the "tilt-out" cap, and is designed for use in corridors of buildings, in banks, hotel rooms, lobbies, etc.



Type WK-55 outdoor safety switch designed for outdoor requirements of railroads, mines, shipping yards, etc., has been announced by Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa. The cast-iron cadmium plated fittings, which are provided with gaskets, are bolted to the drip cover and box. The top cast fitting has two threaded openings and the bottom cast fitting has one, making water tight joints for conduit. The steel box, doors and handle assembly are cadmium plated; the base is of ebony asbestos; all copper parts are tin-plated and the drip cover is of cadmium plated steel, permitting water to drip clear of switch.



A flush type corridor night light known as the Louvre type has been designed by the Chicago Signal Co., 312 So. Green St., Chicago, Ill., for use in hospital corridors. The light is covered by a plate of rolled brass 4 1/2 in. square, held by two small knurled head screws; S-11 Mazda lamps are used; reflector is of brass with three coats of white enamel and steel box is installed with the conduit. This light provides a limited and economical illumination after the general lighting system is cut off; it is installed about 18 in. above the finished floor and adapted to reflect the light downward; it is small enough to be inconspicuous and adaptable for easy lamp replacement. It can be furnished in polished or brush brass standard finishes.

Color Lighting Equipment For Interiors and Exteriors



Reed Color Hoods
For lamps up to 60 watts.
(Full and half types.)



Laco Color Hoods
For lamps 75 w. to 500 w.
(Single or two tone effects.)



Color Plates
For flood lights, spots, etc.
(Also square and oblong in shape.)



Color Cylinders
For Street lighting units,
wall pockets and decorative
lighting effects.
(Made semi or full circular)

Headquarters for Color

Ask for Illustrated Pamphlet
"PROFITS FROM COLOR"

REYNOLDS
ELECTRIC COMPANY

MANUFACTURERS REED SIGN FLASHERS
TRAFFIC CONTROLS, SMALL MOTORS, ETC.

2623 W. Congress St. - Chicago, Ill.

A. F. Wilson

A. F. Wilson, manager of the New York office of the Hart & Hegeman Division of the Arrow-Hart & Hegeman Electric Co., Hartford, Conn., died suddenly on March 22. Mr. Wilson has been connected with the company since 1914.

* * *

Steel and Tubes Announce Removal of Offices

Steel and Tubes, Inc. has moved its general sales department of the electrical division from Brooklyn, N. Y. to its general offices at 224 E. 131st St., Cleveland.

The personnel is Morgan P. Ellis, general manager, electrical division; Murray J. Whitfield, general sales manager, electrical division; L. E. Fuller, western district sales manager, Chicago and James S. Mahan, field engineer, Chicago.

Local representatives are: J. R. Wilkins, 176 Federal St., Boston; A. M. Horne, 176 Federal St., Boston; J. J. Coughlin, Jr., 300 Scott St., Brooklyn; Frank J. Banfield, 310 Stock Exchange Bldg., Buffalo; C. F. Resseguie, 206 Fuller Bldg., Philadelphia; T. D. Mitchell, 912 Garrett Bldg., Baltimore; I. H. Owen, 161 Spring St. Bldg., Atlanta; S. Wynne Snoots, 161 Spring St. Bldg., Atlanta; E. J. McDonagh, 3720 Brighton Rd., Pittsburgh; A. C. Winston, 622 Broadway, Cincinnati; N. B. Walsh, 224 E. 131st St., Cleveland; H. W. Kefgen, 376 Manistique Ave., Detroit; L. C. Rogers, 958 N. Pennsylvania St., Indianapolis, and J. F. Cook, Paul Brown Bldg., St. Louis. Special representatives are F. J. Walker, H. H. Benfield, J. D. Benfield and Frank Murphy.

A new line of vapor-proof couplings and connectors for Steeltubes electrical metallic tubing has also been announced and new and improved bending hickies for Steeltubes are now available.

* * *

Silvray Lighting Adds to Sales Staff

E. S. Bruce and L. W. Lyons have been added to the sales staff of Silvray Lighting, Inc., 53 West 14th St., New York.

Mr. Bruce was formerly associated with the Viking Products Corporation, New York, prior to which time he was with the General



**GOOD
REFLECTORS
Will Boost
Your
PROFITS.**

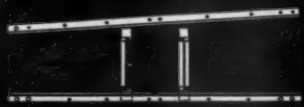
JACKSON

Every installation that calls for a reflector . . . on every installation that you want to make another satisfied customer—USE A JACKSON REFLECTOR! Priced right . . . built right and your share of the profits are sweet.

WRITE AT ONCE

JACKSON ELECTRICAL CO.
910 W. VAN BUREN ST.
CHICAGO, ILL.

KRUSE



Switch Box Supporting Strips with or without Lath Holders

16", 18", 20", 22", 24", 26", 4-in. Lengths

Used by Contractors everywhere. A leader for ten years. Stocked by all leading jobbers. Millions of sets used yearly.

WE ALSO MAKE

Kruse Bar and Old Work Hangers
Peerless Type A Old Work Hangers
Non-Metallic Sheathed Cable Straps
Euc-M-All Outlet Box Hangers
"Ready" Service Fittings

WRITE

For Prices and Literature

Mid-West Metal Products Co.
MUNCIE, INDIANA



Peaks of Profit

You're not reaching the peaks of profit if you're not using IDEAL Universal Connectors on your wiring joints—for both roughing in and fixture work.

IDEALS screw on the wires in a "split second" and make a better mechanical and electrical joint than is possible otherwise. Millions are used today in the country's finest buildings and largest industrial.

Fully Approved by Underwriters and Factory Mutual Lab. Recommended in N.E.C.

Fully patented. No. 1,700,985, issued Feb. 5, 1929. Infringements of "Screw on" connectors will be prosecuted.

Bowlus Boring Machine takes all the slow hard work out of joist boring. Pays for itself first working day. Only \$13.50 with 2 bits.

Ideal Commutator Dresser Co. (530)
1041 Park Ave., Sycamore, Ill.

- ☐ Please send me one trial carton of 100 "Standard Universal" Connectors at \$3.25.
- ☐ Please send me a free connector.
- ☐ Full information on Bowlus Boring Machine.

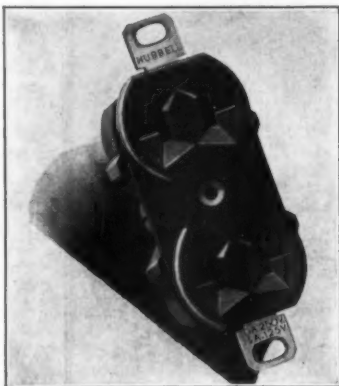
Name.....

Address.....

City.....State.....

Your Jobber.....

New Electrical Products



Harvey Hubbell, Inc., Bridgeport, Conn., is marketing a convenience outlet with a solid composition base eliminating the fibre back. This outlet has one-piece phosphur bronze contact springs; binding plates and screws in deep pockets with heavy side bosses of composition and insulated from side of wall and box. Tapped bushing for plate screw is grounded to mounting strap which is locked to Bakelite face.



Western Wire Products Co., St. Louis, Mo., is manufacturing the "Handy-Andy" vise stand, the top of which is made of malleable iron and steel casting in one piece. The legs are 1 1/8 in. rail steel on the ends of which malleable iron fittings and feet are securely riveted. The malleable feet have short spurs preventing sliding with holes to permanently fasten to floor or for attaching protection when working on tile or finished floors. "Trip-locks" automatically hold legs in place. Slotted openings in the top will accommodate all makes of hinged and chain pipe vises without drilling. The bending block is arranged to bend up to and including 3/4 in. pipe. The stand may be carried from place to place as the legs fold together making it possible to pass through a 16 in. opening.



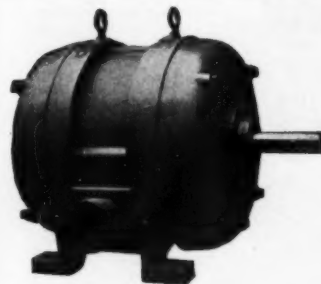
A Bakelite weatherproof socket is being manufactured by Knox Porcelain Corporation, Knoxville, Tenn., designed especially for high wattage lamps. This socket is made in both the straight and shadeholder types, solid and spring contact. The leads are 6 in. No. 15 stranded W.P. wire polarized and shells inserted in Bakelite underpressure thereby preventing looseness. The wires are rigidly soldered to shell and center contact.



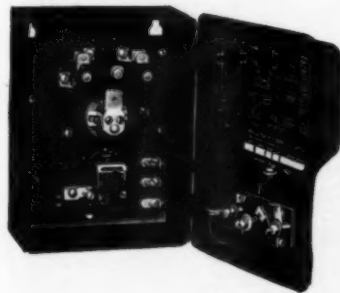
Volume controls for sound system use, in all ranges and sizes and designed for duty over long periods of time have been placed on the market by the Radio Receptor Co., New York City. In addition this company has recently perfected a line of microphones, electrical pickups, dynamic speakers and other components of sound system associate equipment.



Beardslee Chandelier Mfg. Co., Chicago, announces series 50 Shade-Lyte for bathrooms, in which is incorporated all the features of Beardslee Shade-Lytes. The lamp is entirely concealed, equipped with pull chain control. Complete line consists of four brackets and one ceiling light of bronze metal finished in chromium, in standard colors of orchid, green, black and ivory.



The Cleveland Electric Motor Co., Cleveland, Ohio, has redesigned its fan-cooled semi-enclosed motors so that they can be supplied in the same sized frame as open type. Some of the improvements are as follows: The castings are placed next to the laminations at each end of the stator; baffles placed on the bearing brackets direct the air around the stator windings and thence through unrestricted passage out through the end-rings; the end-rings are so constructed that the outside flanges are carried out some distance over the face of the laminations, preventing dirt from falling into air passages. This construction is furnished as standard in squirrel cage and slip-ring motors, both of ball-bearing and sleeve bearing types, for general purpose, multispeed or elevator applications.



The Allen-Bradley Company, Milwaukee, Wis., announces bulletin 707 single-phase double-pole magnetic starting switch with thermal overload relay for motors operating refrigerating machines, compressors, pumps, oil burners and other motor-driven devices governed by either two-wire or three-wire control. This switch has a maximum rating of 1 1/2 h.p. 110 volts and 3 h.p. 220 volts, with operating coil which has a double winding for series-parallel connections permitting switch to be used interchangeably up to and including 1 1/2 h.p. for 110 or 220 volt motors by simply changing terminal connections of operating coil.

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Electric Company. Mr. Lyons was formerly associated with the Brooklyn Edison Company, Western Electric Co. and National Lamp Works.

Silvray also announces its catalog and hand book entitled "Illumination by Silvray" covering the application of Silvray equipment to commercial, industrial and decorative lighting.

* * *

Paul W. Koch & Company, manufacturers of the Jiffy tool line, has moved its offices from 19 S. Wells Street, Chicago, to 20 N. Wacker Drive.

Classified Advertising

Position Wanted: Estimating and sales engineer desires to connect with first class contractor-dealer; prefer Philadelphia or adjacent city. Twenty years' experience. Address Box 430, Electrical Contracting, 520 N. Michigan Ave., Chicago.

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Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912,

of Electrical Contracting, published monthly at Chicago, Ill., for April 1, 1930.
State of Illinois, County of Cook, ss.
Before me, a notary public in and for the State and county aforesaid, personally appeared C. W. Forbrich, who, having been duly sworn according to law, deposes and says that he is the business manager of Electrical Contracting, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Electrical Trade Publishing Co., 520 N. Michigan Ave., Chicago, Ill.; editor, S. B. Williams, 520 N. Michigan Ave., Chicago, Ill.; managing editor, S. B. Williams, 520 N. Michigan Ave., Chicago, Ill.; business manager, C. W. Forbrich, 520 N. Michigan Ave., Chicago, Ill.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member must be given.) Howard Ehrlich, 320 N. Michigan Ave., Chicago, Ill.; Edgar Kobak, Jackson Heights, N. Y.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is (This information is required from daily publications only.)

C. W. Forbrich,
Sworn to and subscribed before me this 1st day of April, 1930.
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Index to Advertisers

A		M	
A-A Wire Company Division.....	94	McGill Mfg. Co.	39
Adam Electric Co., Frank.....	77	McGraw-Hill Book Co., Inc.....	135
Adapti Co.	128	McGraw-Hill Catalog & Directory	
American Blower Corp.....	76	Co., Inc.	130
American Steel & Wire Co.....	53	Marbelite Art Products Co.....	124
Anaconda Wire & Cable Co.....	4	Martin & Sons, H. P.....	145
Appleton Electric Co.....	90	Meier Electric & Machine Co.....	141
Armstrong Bros. Tool Co.....	136	Mid-West Metal Products Co.....	143
Arrow Electric Division	68	Minerallac Electric Co.....	122
Art Metal Co.....	110	Minneapolis Electric & Construction	
B		Co.	134
Belson Mfg. Co.....	122	Mullenbach Electrical Mfg. Co.,	
Benjamin Electric Mfg. Co.....	37	Inc.	145
Black & Decker Mfg. Co., The.....	52	N	
Brach Mfg. Corp., L. S.....	128	National Electric Products Corp..	
Bryant Electric Co.....	111	.....Front cover	
Buffalo Forge Co.....	109	No Draft Fan Fixture Co.....	
Bull Dog Electric Products Co....		.....113	
.....Back cover		Non-Metallic Sheathed Cable Li-	
Bussmann Mfg. Co.....	Inside back cover	censees	
C		O	
Central Tube Co.....	115	Ohio Carbon Co.....	
Century Electric Co.....	35	Overbagh & Ayres Mfg. Co.....	
Collyer Ins. Wire Co.....	113	F	
Colt's Patent Fire Arms Mfg. Co..	86	Paine Co., The	
Conduo Base Co.	114	Pass & Seymour, Inc.....	
Couch Co., Inc., S. H.....	38	Penn-Union Electric Corp.....	
Cramer & Co., Inc., R. W.....	116	Pittsburgh Reflector Co.....	
Crouse-Hinds Co.	97	Pyramid Products Co.....	
Cutler-Hammer, Inc.	64-65	Q	
D		Quadrangle Mfg Co.....	
Day-Brite Reflector Co.....	126	R	
Detroit Insulated Wire Co.....	141	Radio Receptor Co., Inc.....	
E		Rawlplug Co., Inc.....	
Edwards & Co., Inc.....	66	Reflector & Illuminating Co.....	
Emerson Electric Mfg. Co.....	127	Reynolds Electric Co.....	
Evansville Tool Works, Inc.....	136	Rome Wire Company Division...	
F		S	
Fretz-Moon Tube Co., Inc.....	42	Sears, Henry D.....	
Fullman Mfg. Co.	54-55	Sherman Mfg. Co., H. B.....	
G		Silvey Pipe Bender Co.....	
Garland Mfg. Co.....	112	Sorgel Electric Co.	
General Electric Co.....	25-26, 33, 63, 105-106, 121	Standard Transformer Co.....	
General Electric Supply Corp.....	32	Stanley Electric Tool Co.....	
Graybar Electric Co.....	62, 131	Steel & Tubes, Inc.....	
Greenlee Tool Co.....	125	Steel City Electric Co.....	
H		Surges Electric Co.....	
Hart & Hegeman Division.....	31	T	
Hart Mfg. Co.....	129	Thomas & Betts Co., The.....	
Henderson-Hazel Corp.	137	Tork Clocks, Inc.....	
Herwig Co., The	134	Triangle Conduit Co., Inc.....	
Holtzer-Cabot Electric Co.....	132	Trico Fuse Mfg. Co.....	
Horelectrical Corp.	108	U	
Hubbell, Inc., Harvey.....		Union Metal Mfg. Co.....	
.....Inside front cover		U. S. Rubber Co.....	
Hykon Mfg. Co.....	120	V	
I		Van Dorn Electric Tool Co.....	
Ideal Commutator Dresser Co....	143	W	
Illinois Electric Porcelain Co.....	132	Wadsworth Electric Mfg. Co., Inc..	
Indiana Rubber & Ins. Wire Co..	96	Wagner Electric Corp.....	
Ivanhoe Division of The Miller Co.	95	Wakefield Brass Co., F. W.....	
J		Western Wire Products Co.....	
Jackson Electrical Co.	143	Westinghouse Electric & Mfg. Co..	
Jefferson Electric Co.....	41	Wheeler Reflector Co.....	
Jiffy Wire Connector Co.....	134	Wiremold Co., The.....	
K		Wurdack Electric Mfg. Co., Wm... 45	
Kliegl Bros.	112	Y	
Knox Porcelain Corp.	141	Youngstown Sheet & Tube Co....	
Koch & Co., Paul W.....	134		
L			
Lidseen, Inc., Gus.....	103		

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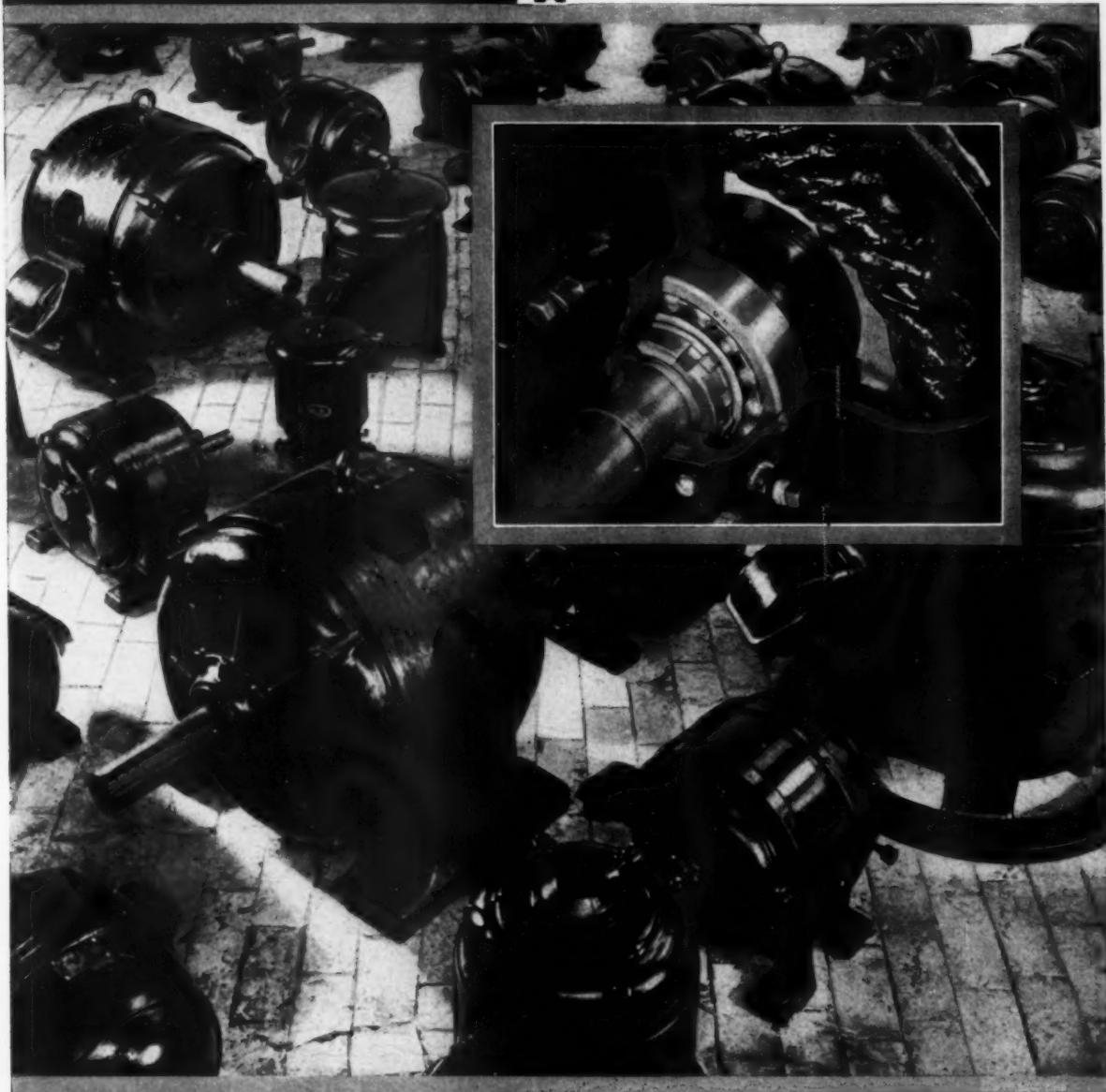
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